

Energies and E1, M1, E2, M2 transition rates for states of the $2s^22p$, $2s2p^2$, and $2p^3$ configurations in boron-like ions between N III and Zn XXVI.

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Abstract

Energies, E1, M1, E2, M2 transition rates, line strengths, oscillator strengths, and lifetimes from relativistic configuration interaction calculations are reported for the states of the $(1s^2)2s^22p$, $2s2p^2$, and $2p^3$ configurations in all boron-like ions between N III and Zn XXVI. Valence, core-valence, and core-core correlation effects were accounted for through single-double multireference (SD-MR) expansions to increasing sets of active orbitals.

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1. Introduction

Spectroscopic data of boron-like ions are highly useful in the diagnostics of solar, astrophysical, and fusion plasmas [1, 2]. For many years researchers have studied the boron-like isoelectronic sequence, providing both experimental and theoretical energy levels and transitions rates. Theoretically predicted energy levels and oscillator strengths are available from a number of sources [3] – [10]. C. F. Fischer and G. Tachiev have presented energy levels and rates for electric dipole transitions in boron-like ions between B I and Si IX for low lying excited states based on calculations using multiconfiguration Breit-Pauli wave functions [6, 7]. C. F. Fischer also presented energy levels, transition rates and lifetimes of boron-like ions using the multiconfiguration Dirac-Hartree-Fock method [8]. K. Koc calculated energy levels and transitions rates based on the multireference relativistic configuration interaction (MR RCI) method with the no-pair Dirac-Coulomb-Breit Hamiltonian [9–11]. G. Corrége and A. Hibbert have presented energy levels, oscillator strengths and transitions probabilities for C II, N III and O IV using the code CIV3 [12]. Jönsson *et al.* presented energy levels, specific mass shift parameters, hyperfine interaction constants, and transition probabilities for C II, N III, and O IV using the multiconfiguration Dirac-Hartree-Fock method [13, 14]. L. Hao and G. Jiang calculated energy levels, transition rates, and line strengths for several ions along the B I isoelectronic sequence also using the multiconfiguration Dirac-Hartree-Fock method [15]. **We present accurate and comprehensive calculations using the fully-relativistic multiconfiguration Dirac-Hartree-Fock and configuration interaction methods. Comparing with other theoretical calculations we have studied more ions in the B I isoelectronic sequence, and we give energies, transition rates, and lifetimes for states of the $(1s^2)2s^22p$, $2s2p^2$, and $2p^3$ configurations in all ions from N III to Zn XXVI.** The accuracy of the present data is assessed, and rates for selected transitions are compared with previously reported values.

2. Computational procedure

Here we give a brief outline of the multiconfiguration Dirac-Hartree-Fock (MCDHF) method [16]. Starting from the Dirac-Coulomb Hamiltonian

$$H_{\text{DC}} = \sum_{i=1}^N (c \boldsymbol{\alpha}_i \cdot \mathbf{p}_i + (\beta_i - 1)c^2 + V_i^N) + \sum_{i>j}^N 1/r_{ij}, \quad (1)$$

where V^N is the monopole part of the electron-nucleus Coulomb interaction, the atomic state functions (ASFs) describing different fine-structure states are obtained as linear combinations of symmetry adapted configuration state functions (CSFs)

$$|\gamma JM_J\rangle = \sum_{j=1}^{NCSFs} c_j |\gamma_j JM_J\rangle. \quad (2)$$

In the expression above J and M_J are the angular quantum numbers. γ denotes other appropriate labeling of the configuration state function, for example parity, orbital occupancy, and coupling scheme. The configuration state functions are built from products of one-electron Dirac orbitals. In the relativistic self-consistent field procedure both the radial parts of the Dirac orbitals and the expansion coefficients are optimized to self-consistency. The Breit interaction

$$H_{\text{Breit}} = - \sum_{i<j}^N \left[\boldsymbol{\alpha}_i \cdot \boldsymbol{\alpha}_j \frac{\cos(\omega_{ij} r_{ij}/c)}{r_{ij}} + (\boldsymbol{\alpha}_i \cdot \nabla_i)(\boldsymbol{\alpha}_j \cdot \nabla_j) \frac{\cos(\omega_{ij} r_{ij}/c) - 1}{\omega_{ij}^2 r_{ij}/c^2} \right] \quad (3)$$

as well as leading quantum electrodynamics (QED) corrections can be included in subsequent relativistic configuration interaction (RCI) calculations [17]. Calculations can be done for single levels, but also for portions of a spectrum in the extended optimal level (EOL) scheme, where optimization is on a weighted sum of energies [18]. Using the latter scheme a balanced description of a number of fine-structure states belonging to one or more configurations can be obtained in a single calculation. All calculations were performed with the GRASP2K code [19].

3. Computation of transition parameters

The transition parameters, such as rates for spontaneous decay, for multipole transitions between two atomic states γJM_J and $\gamma' J' M'_J$ can be expressed in terms of reduced transition matrix elements

$$\langle \gamma J \| \mathbf{Q}_k^{(\lambda)} \| \gamma' J' \rangle, \quad (4)$$

where $\mathbf{Q}_k^{(\lambda)}$ is the electromagnetic multipole operator of order k in Coulomb or Babushkin gauge [20]. The superscript designates the type of multipole: $\lambda = 1$ for electric multipoles and $\lambda = 0$ for magnetic multipoles. Standard Racah algebra assumes that the atomic state functions are built from the same orthogonal radial orbital set [21]. However, this restriction can be relaxed. To compute transition matrix elements between two atomic state functions described by independently optimized orbital sets, transformations of the atomic state functions are performed in such a way that the orbital sets become biorthogonal, in which case the calculation can be handled using standard techniques [22].

4. Generation of configuration expansions

In the present work, wave functions for all states belonging to a specific configuration were determined simultaneously in an EOL calculation [18]. The configuration expansions were obtained using the active set method [23, 24]. Here CSFs of a specified parity and J symmetry are generated by excitations from a number of reference configurations to a set of relativistic orbitals. By applying restrictions on the allowed excitations, different electron correlation effects can be targeted. To monitor the convergence of the calculated energies and transition parameters, the active sets were increased in a systematic way by adding layers of correlation orbitals. In the present work valence, core-valence, and core-core correlation effects were included, and the configuration expansions were obtained by SD-excitations to active sets with principal quantum numbers $n = 3 \dots 9$ and orbital quantum numbers $l = 0 \dots 5$ (i.e. angular symmetries s, p, d, f, g, h with limitation for $n = 9$ the orbital quantum number $l = 0 \dots 4$) from all shells of the $(1s^2)2s^2 2p$, $2s 2p^2$, and $2p^3$ configurations.

The self-consistent field calculations for each layer of orbitals were followed by RCI calculations, including the Breit interaction. At the final stage the multireference set was enlarged to contain all CSFs with the larger weights in the CSF calculation. Particularly important were some configurations with $3d$ orbitals. For the states of the $2s^2 2p$ and $2p^3$ configurations the enlarged multireference set was $\{2s^2 2p, 2p^3, 2s 2p 3d, 2p 3d^2\}$ whereas for $2s 2p^2$ it was $\{2s 2p^2, 2p^2 3d, 2s^2 3d, 2s 3d^2\}$. Among the states generated by SD-excitations from the multireference set only those interacting with the multireference states were kept. The leading QED effects – vacuum polarization and self-energy – were included in the final multireference RCI calculations. The final expansion for the $2s^2 2p$ states contained about 200 000 CSFs distributed over the $J = 1/2, 3/2$ symmetry blocks. For the $2s 2p^2$ and $2p^3$ states there were, respectively, 300 000 and 360 000 CSFs distributed over the $J = 1/2, 3/2, 5/2$ symmetry blocks.

5. Results and evaluation of data

Table 1 displays the experimental energy levels and the computed energies from the largest RCI calculations including the Breit interaction and QED corrections. The computed energies agree very well with the experimental values. Energy differences are in most cases around a few hundred cm^{-1} . There are exception for Ar XIV and Co XXIII for states $2s2p^2\ ^4P_{1/2,3/2,5/2}$ and $2p^3\ ^4S_{3/2}$, which are of the order $1000\ \text{cm}^{-1}$ too low. We attribute these differences to uncertainties in the experimental values. Also the fine-structure separations are well described with the exception of $2p^3\ ^2D_{3/2,5/2}$ in Ar XIV. Again we believe that the problem with the latter structure lies on the experimental side. Our calculated energy levels are in good agreement with K. Koc [9, 11] energies values.

Table 2 shows the energy levels for Si X from RCI calculations including the Breit interaction and leading QED effects, with configuration expansions obtained by SD-excitations from the $\{2s^22p, 2p^3\}$ and $\{2s2p^2\}$ references to increasing active sets of orbitals $n = 3 \dots 9$. The column denoted MR displays energies from RCI calculations with configuration expansions obtained by SD-excitations from the enlarged $\{2s^22p, 2p^3, 2s2p3d, 2p3d^2\}$ and $\{2s2p^2, 2p^23d, 2s^23d, 2s3d^2\}$ multireferences to the $n = 9$ active set of orbitals. The energies seem to be rather well converged with respect to the active set of orbitals with energy changes of some $10\ \text{cm}^{-1}$ to $30\ \text{cm}^{-1}$ when going from $n = 8$ to $n = 9$. The effects of the increasing multireferences are slightly larger.

Rates for all E1, M2 transitions in the $2s^22p - 2s2p^2$ and $2s2p^2 - 2p^3$ transition arrays are given in Table 3. Table 3 also contains rates for M1 and E2 transitions between the fine-structure levels of the $2s^22p$, $2s2p^2$ and $2p^3$ configurations. Rates for these transitions are given in the Babushkin gauge. All rates are based on computed transition energies. Line strengths and oscillator strengths are also given in Table 3. Calculated transition energies are in good agreement with observed transition energies obtained from [25]. In Table 4 we compare electric dipole transition rates with rates taken from MR RCI [9, 11], MCHF [8], CIV3 [12] calculations and values taken from NIST [25]. In this table we give rates in both the Babushkin and Coulomb gauges. Both forms agree very well for the strong allowed transitions, but not for all weak spin-forbidden transitions. As it seen from Table 5 transitions rates are in good agreement with other methods. Table 5 displays E2, M1 rates in both Babushkin and Coulomb gauge from present calculations. The rates are compared with rates from other calculations and with experimental values.

In Table 6 lifetimes of all the levels of the $2s^22p$, $2s2p^2$ and $2p^3$ configurations are displayed for all ions of the boron-like sequence ($7 \leq Z \leq 30$). Lifetimes are compared with other MCHF and MCDHF calculations by C. Froese Fischer [8] and, when available, with experimental measurements. Our theoretical lifetimes agree with measured lifetimes to within one to two times of the experimental error limits.

6. Summary

We report energy levels, transition rates, line strengths, oscillator strengths and lifetimes for relativistic configuration interaction calculations for transitions among the $(1s^2)\ 2s^22p$, $2s2p^2$, and $2p^3$ configurations of all boron-like ions from N III to Zn XXVI. The calculations account for valence, core-valence and core-core correlation through large configuration expansions based on orbital sets with principal quantum numbers $n = 3 \dots 8$ and orbital quantum numbers $l = 0 \dots 5$ (with limitation for $n = 9$ the orbital quantum number $l = 0 \dots 4$). The results for the energies, transition

rates and lifetimes are compared with the earlier available values obtained from calculations in the Breit-Pauli approximation [6], in the relativistic configuration interaction method [9, 10], in CIV3 method [12] and also with experimental measurements. Results from our present calculations are in very good agreement with other theoretical methods, also as with experimental values. The present energy values generally agree within a few hundred cm^{-1} with the experimentally compiled results for all the studied ions. Transition rates agree very well with rates from other recent calculations.

Electronic form of the tables are available from the journal.

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Explanation of Tables

Table 1. Energy levels in cm^{-1}

Level	Calculated (Calc.) and observed (Obs.) energies are given in units of cm^{-1} relative to a ground state energy of zero.
Splitting	Splitting of energy levels relative to the lowest level for the term. The splitting of the highest level is the spread of the term. The observed (Obs.) energies are those of [25].

Table 2. Convergence of energy levels in Si X

n	Energies in units of cm^{-1} relative to a ground state energy of zero from RCI calculations including the Breit interaction and leading QED effects, with configuration expansions obtained by SD-excitations from the $\{2s^22p, 2p^3\}$ and $\{2s2p^2\}$ reference configurations to increasing active sets of orbitals $n = 3 \dots 9$.
MR	Energies in units of cm^{-1} relative to a ground state energy of zero from RCI calculations including the Breit interaction and leading QED effects, with configuration expansions obtained by SD-excitations from the $\{2s^22p, 2p^3, 2s2p3d, 2p3d^2\}$ and $\{2s2p^2, 2p^23d, 2s^23d, 2s3d^2\}$ multireferences to the $n = 9$ active set of orbitals.
Obs.	The observed (Obs.) energies are those of [25].

Table 3. Transition rates

Upper	Characteristics of upper levels.
Lower	Characteristics of lower levels.
ΔE_{Obs}	Observed transition energies in cm^{-1} obtained from [25].
ΔE_{Calc}	Calculated transition energies in cm^{-1} .
Type	Type of transitions (E1, E2, M1, M2).
E1	Electric dipole transitions.
E2	Electric quadrupole transitions.
M1	Magnetic dipole transitions.
M2	Magnetic quadrupole transitions.
gf	Oscillator strengths.
A	Transition rates for spontaneous emission in units of s^{-1} . Rates are based on computed transition energies.
S	Line strengths.

Table 4. Comparison of E1 transitions rates for O IV

Upper	Characteristics of upper levels.
Lower	Characteristics of lower levels.
A_B	Transition rates for spontaneous emission in Babushkin (length) gauge in units of s^{-1} . Rates are based on computed transition energies.
A_C	Transition rates for spontaneous emission in Coulomb (velocity) gauge in units of s^{-1} . Rates are based on computed transition energies.
This work	Transition rates for spontaneous emission in s^{-1} from present calculations.
MR RCI	Transition rates for spontaneous emission in s^{-1} from [9, 11].
MCHF	Transition rates for spontaneous emission in s^{-1} from [8].
CIV3	Transition rates for spontaneous emission in s^{-1} from [12].
NIST	Transition rates for spontaneous emission in s^{-1} from [25].

Table 5. Comparison of M1 and E2 transitions rates for Ne VI - Zn XXVI

Upper	Characteristics of upper levels.
Lower	Characteristics of lower levels.
B	Transition rates for spontaneous emission in Babushkin (length) gauge in units of s^{-1} . Rates are based on computed transition energies.
C	Transition rates for spontaneous emission in Coulomb (velocity) gauge in units of s^{-1} . Rates are based on computed transition energies.
This work	Transition rates for spontaneous emission in s^{-1} from present calculations.
MR RCI	Transition rates for spontaneous emission in s^{-1} from [10].
MCDHF	Transition rates for spontaneous emission in s^{-1} from [8].
NIST	Transition rates for spontaneous emission in s^{-1} from [25].

Table 6. Lifetimes

τ	Lifetime of the level in s.
This work	Lifetime of the level in s from present calculations.
MCHF/MCDHF	Lifetime of the level in s from [8].
Experiment	Experimental lifetime of the level in s taken from [26] – [32].

Table 1
Energy levels in cm^{-1} . See page 8 for Explanation of Tables.

Level	J	Level (cm^{-1})			Splitting (cm^{-1})		
		Calc.	Obs.	Diff.	Calc.	Obs.	Diff.
N III							
$2s^2 2p^2 P^o$	1/2	0	0	0			
	3/2	176.5	174.4	2.1	176.5	174.4	2.1
$2s 2p^2 4P$	1/2	57 097.6	57 187.1	-89.5			
	3/2	57 157.7	57 246.8	-89.1	60.1	59.7	0.4
	5/2	57 239.6	57 327.9	-88.3	142.0	140.8	1.2
$2s 2p^2 2D$	5/2	101 117.1	101 023.9	93.2			
	3/2	101 124.5	101 030.6	93.9	7.4	6.7	0.7
$2s 2p^2 2S$	1/2	131 378.0	131 004.3	373.7			
$2s 2p^2 2P$	1/2	146 034.4	145 875.7	158.7			
	3/2	146 145.5	145 985.8	159.7	111.1	110.1	1.0
$2p^3 4S^o$	3/2	186 756.3	186 797.1	-40.8			
$2p^3 2D^o$	5/2	203 171.4	203 074.6	96.8			
	3/2	203 185.6	203 088.9	96.7	14.2	14.3	-0.1
$2p^3 2P^o$	1/2	230 811.4	230 404.3	407.1			
	3/2	230 811.4	230 408.6	402.8	0.0	4.3	-4.3
O IV							
$2s^2 2p^2 P^o$	1/2	0	0	0			
	3/2	389.5	385.9	3.6	389.5	385.9	3.6
$2s 2p^2 4P$	1/2	71 353.8	71 439.8	-86.0			
	3/2	71 485.5	71 570.1	-84.6	131.7	130.3	1.4
	5/2	71 670.6	71 755.5	-84.9	316.8	315.7	1.1
$2s 2p^2 2D$	5/2	127 030.2	126 936.3	93.9			
	3/2	127 044.3	126 950.2	94.1	14.1	13.9	0.2
$2s 2p^2 2S$	1/2	164 644.4	164 366.4	278.0			
$2s 2p^2 2P$	1/2	180 632.5	180 480.8	151.7			
	3/2	180 876.6	180 724.2	152.4	244.1	243.4	0.7
$2p^3 4S^o$	3/2	231 482.6	231 537.5	-54.9			
$2p^3 2D^o$	5/2	255 243.2	255 155.9	87.3			
	3/2	255 271.6	255 184.9	86.7	28.4	29.0	-0.6
$2p^3 2P^o$	1/2	289 298.8	289 015.4	283.4			
	3/2	289 305.1	289 023.5	281.6	6.3	8.1	-1.8
F V							
$2s^2 2p^2 P^o$	1/2	0	0	0			
	3/2	749.8	744.5	5.3	749.8	744.5	5.3
$2s 2p^2 4P$	1/2	85 701.8	85 790.2	-88.4			
	3/2	85 955.7	86 043.5	-87.8	253.9	253.3	0.6
	5/2	86 319.7	86 407.0	-87.3	617.9	616.8	1.1
$2s 2p^2 2D$	5/2	152 970.7	152 874.6	96.1			
	3/2	152 993.5	152 898.7	94.8	22.8	24.1	-1.3
$2s 2p^2 2S$	1/2	197 819.6	197 566.4	253.2			
$2s 2p^2 2P$	1/2	215 035.6	214 880.4	155.2			
	3/2	215 504.0	215 348.1	155.9	468.4	467.7	0.7
$2p^3 4S^o$	3/2	276 365.4	276 413.8	-48.4			
$2p^3 2D^o$	5/2	307 321.3	307 227.3	94.0			
	3/2	307 368.3	307 275.1	93.2	47.0	47.8	-0.8
$2p^3 2P^o$	1/2	347 667.3	347 420.6	246.7			
	3/2	347 686.4	347 442.5	243.9	19.1	21.9	-2.8
Ne VI							
$2s^2 2p^2 P^o$	1/2	0	0	0			
	3/2	1 311.7	1 306.8	4.9	1 311.7	1 306.8	4.9
$2s 2p^2 4P$	1/2	100 203.8	100 297.1	-93.3			
	3/2	100 650.5	100 737.1	-86.6	446.7	440.0	6.7
	5/2	101 298.1	101 383.6	-85.5	1 094.3	1 086.5	7.8
$2s 2p^2 2D$	5/2	179 093.6	178 988.1	105.5			
	3/2	179 125.9	179 018.0	107.9	32.3	29.9	2.4
$2s 2p^2 2S$	1/2	231 103.1	230 851.2	251.9			
$2s 2p^2 2P$	1/2	249 455.6	249 286.0	169.6			
	3/2	250 271.1	250 099.4	171.7	815.5	813.4	2.1
$2p^3 4S^o$	3/2	321 566.5	321 611.8	-45.3			
$2p^3 2D^o$	5/2	359 645.4	359 537.1	108.3			
	3/2	359 712.7	359 605.0	107.7	67.3	67.9	-0.6
$2p^3 2P^o$	1/2	406 250.0	406 007.3	242.7			
	3/2	406 295.1	406 049.5	245.6	45.1	42.2	2.9

Continued. . .

Table 1 (continued)

Level	J	Level (cm^{-1})			Splitting (cm^{-1})		
		Calc.	Obs.	Diff.	Calc.	Obs.	Diff.
Na VII							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	2 141	2 135	6	2 141	2 135	6
$2s 2p^2 \ ^4P$	1/2	114 921	114 995	-74			
	3/2	115 655	115 728	-73	734	733	1
	5/2	116 725	116 798	-73	1 804	1 803	1
$2s 2p^2 \ ^2D$	5/2	205 524	205 412	112			
	3/2	205 564	205 448	116	40	36	4
$2s 2p^2 \ ^2S$	1/2	264 637	264 400	237			
$2s 2p^2 \ ^2P$	1/2	284 042	283 869	173			
	3/2	285 359	285 189	170	1 317	1 320	-3
$2p^3 \ ^4S^o$	3/2	367 273	367 308	-35			
$2p^3 \ ^2D^o$	5/2	412 431	412 311	120			
	3/2	412 515	412 395	120	84	84	0
$2p^3 \ ^2P^o$	1/2	465 267	465 017	250			
	3/2	465 362	465 111	251	95	94	1
Mg VIII							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	3 310	3 302	8	3 310	3 302	8
$2s 2p^2 \ ^4P$	1/2	129 905	129 890	15			
	3/2	131 050	131 030	20	1 145	1 140	5
	5/2	132 719	132 710	9	2 814	2 820	-6
$2s 2p^2 \ ^2D$	5/2	232 395	232 274	121			
	3/2	232 436	232 307	129	41	33	8
$2s 2p^2 \ ^2S$	1/2	298 551	298 282	269			
$2s 2p^2 \ ^2P$	1/2	318 938	318 721	217			
	3/2	320 938	320 723	215	2 000	2 002	-2
$2p^3 \ ^4S^o$	3/2	413 672	413 610	62			
$2p^3 \ ^2D^o$	5/2	465 880	465 745	135			
	3/2	465 967	465 818	149	87	73	14
$2p^3 \ ^2P^o$	1/2	524 926	524 652	274			
	3/2	525 115	524 841	274	189	189	0
Al IX							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	4 899	4 890	9	4 899	4 890	9
$2s 2p^2 \ ^4P$	1/2	145 229	145 270	-41			
	3/2	146 942	146 990	-48	1 713	1 720	-7
	5/2	149 427	149 460	-33	4 198	4 190	8
$2s 2p^2 \ ^2D$	5/2	259 844	259 730	114			
	3/2	259 871	259 760	111	27	30	-3
$2s 2p^2 \ ^2S$	1/2	332 956	332 710	246			
$2s 2p^2 \ ^2P$	1/2	354 295	354 080	215			
	3/2	357 182	356 950	232	2 887	2 870	17
$2p^3 \ ^4S^o$	3/2	460 957	460 930	27			
$2p^3 \ ^2D^o$	5/2	520 205	520 080	125			
	3/2	520 263	520 140	123	58	60	-2
$2p^3 \ ^2P^o$	1/2	585 442	585 180	262			
	3/2	585 795	585 540	255	353	360	-7
Si X							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	7 000	6 991	9	7 000	6 991	9
$2s 2p^2 \ ^4P$	1/2	160 953	161 010	-57			
	3/2	163 431	163 490	-59	2 478	2 480	-2
	5/2	166 997	167 060	-63	6 044	6 050	-6
$2s 2p^2 \ ^2D$	3/2	287 997	287 850	147			
	5/2	288 011	287 880	131	14	30	-16
$2s 2p^2 \ ^2S$	1/2	367 943	367 670	273			
$2s 2p^2 \ ^2P$	1/2	390 289	390 040	249			
	3/2	394 266	394 030	236	3 977	3 990	-13
$2p^3 \ ^4S^o$	3/2	509 332	509 330	2			
$2p^3 \ ^2D^o$	3/2	575 593	575 430	163			
	5/2	575 621	575 450	171	28	20	8
$2p^3 \ ^2P^o$	1/2	647 032	646 760	272			
	3/2	647 660	647 390	270	628	630	-2

Continued. . .

Table 1 (continued)

Level	J	Level (cm^{-1})			Splitting (cm^{-1})		
		Calc.	Obs.	Diff.	Calc.	Obs.	Diff.
P XI							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	9 714	9 699	15	9 714	9 699	15
$2s 2p^2 \ ^4P$	1/2	177 169	177 177	-8			
	3/2	180 657	180 672	-15	3 488	3 495	-7
	5/2	185 613	185 630	-17	8 444	8 453	-9
$2s 2p^2 \ ^2D$	3/2	316 959	316 807	152			
	5/2	317 061	316 905	156	102	98	4
$2s 2p^2 \ ^2S$	1/2	403 568	403 322	246			
$2s 2p^2 \ ^2P$	1/2	427 118	426 877	241			
	3/2	432 370	432 160	210	5 252	5 283	-31
$2p^3 \ ^4S^o$	3/2	559 005	558 973	32			
$2p^3 \ ^2D^o$	3/2	632 151	631 961	190			
	5/2	632 358	632 164	194	207	203	4
$2p^3 \ ^2P^o$	1/2	709 924	709 666	258			
	3/2	710 995	710 749	246	1 071	1 083	-12
S XII							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	13 149	13 135	14	13 149	13 135	14
$2s 2p^2 \ ^4P$	1/2	193 930	193 882	48			
	3/2	198 727	198 675	52	4 797	4 793	4
	5/2	205 433	205 425	8	11 503	11 543	-40
$2s 2p^2 \ ^2D$	3/2	346 898	346 700	198			
	5/2	347 160	347 005	155	262	305	-43
$2s 2p^2 \ ^2S$	1/2	439 890	439 580	310			
$2s 2p^2 \ ^2P$	1/2	465 047	464 755	292			
	3/2	471 704	471 430	274	6 657	6 675	-18
$2p^3 \ ^4S^o$	3/2	610 196	610 075	121			
$2p^3 \ ^2D^o$	3/2	690 129	689 910	219			
	5/2	690 661	690 480	181	532	570	-38
$2p^3 \ ^2P^o$	1/2	774 363	774 020	343			
	3/2	776 123	775 805	318	1 760	1 785	-25
Cl XIII							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	17 424	17 410	14	17 424	17 410	14
$2s 2p^2 \ ^4P$	1/2	211 308	211 270	38			
	3/2	217 780	217 740	40	6 472	6 470	2
	5/2	226 647	226 610	37	15 339	15 340	-1
$2s 2p^2 \ ^2D$	3/2	377 968	377 770	198			
	5/2	378 499	378 310	189	531	540	-9
$2s 2p^2 \ ^2S$	1/2	476 923	476 620	303			
$2s 2p^2 \ ^2P$	1/2	504 376	504 100	276			
	3/2	512 489	512 200	289	8 113	8 100	13
$2p^3 \ ^4S^o$	3/2	663 132	663 040	92			
$2p^3 \ ^2D^o$	3/2	749 721	749 520	201			
	5/2	750 790	750 580	210	1 069	1 060	9
$2p^3 \ ^2P^o$	1/2	840 606	840 270	336			
	3/2	843 405	843 080	325	2 799	2 810	-11
Ar XIV							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	22 668	22 658	10	22 668	22 658	10
$2s 2p^2 \ ^4P$	1/2	229 351	230 270	-919			
	3/2	237 939	238 950	-1 011	8 588	8 680	-92
	5/2	249 426	250 420	-994	20 075	20 150	-75
$2s 2p^2 \ ^2D$	3/2	410 312	410 200	112			
	5/2	411 272	411 210	62	960	1 010	-50
$2s 2p^2 \ ^2S$	1/2	514 675	514 420	255			
$2s 2p^2 \ ^2P$	1/2	545 434	545 250	184			
	3/2	554 954	554 680	274	9 520	9 430	90
$2p^3 \ ^4S^o$	3/2	718 046	718 900	-854			
$2p^3 \ ^2D^o$	3/2	811 122	810 200	922			
	5/2	813 022	812 800	222	1 900	2 600	-700
$2p^3 \ ^2P^o$	1/2	908 929	908 700	229			
	3/2	913 247	913 000	247	4 318	4 300	18

Continued. . .

Table 1 (continued)

Level	J	Level (cm^{-1})			Splitting (cm^{-1})		
		Calc.	Obs.	Diff.	Calc.	Obs.	Diff.
K XV							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	29 020	29 017	3	29 020	29 017	3
$2s 2p^2 \ ^4P$	1/2	248 159	248 320	-161			
	3/2	259 394	259 630	-236	11 235	11 310	-75
	5/2	274 007	274 200	-193	25 848	25 880	-32
$2s 2p^2 \ ^2D$	3/2	444 127	443 960	167			
	5/2	445 740	445 510	230	1 613	1 550	63
$2s 2p^2 \ ^2S$	1/2	553 175	552 860	315			
$2s 2p^2 \ ^2P$	1/2	588 592	588 260	332			
	3/2	599 384	599 080	304	10 792	10 820	-28
$2p^3 \ ^4S^o$	3/2	775 178	775 280	-102			
$2p^3 \ ^2D^o$	3/2	874 531	874 320	211			
	5/2	877 656	877 400	256	3 125	3 080	45
$2p^3 \ ^2P^o$	1/2	979 627	979 270	357			
	3/2	986 103	985 690	413	6 476	6 420	56
Ca XVI							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	36 628	36 520	108	36 628	36 520	108
$2s 2p^2 \ ^4P$	1/2	267 772	267 990	-218			
	3/2	282 287	282 500	-213	14 515	14 510	5
	5/2	300 576	300 800	-224	32 804	32 810	-6
$2s 2p^2 \ ^2D$	3/2	479 568	479 420	148			
	5/2	482 143	481 860	283	2 575	2 440	135
$2s 2p^2 \ ^2S$	1/2	592 489	592 180	309			
$2s 2p^2 \ ^2P$	1/2	634 192	633 760	432			
	3/2	646 054	645 660	394	11 862	11 900	-38
$2p^3 \ ^4S^o$	3/2	834 761	834 860	-99			
$2p^3 \ ^2D^o$	3/2	940 156	940 000	156			
	5/2	945 005	944 700	305	4 849	4 700	149
$2p^3 \ ^2P^o$	1/2	1 053 012	1 052 700	312			
	3/2	1 062 475	1 062 030	445	9 463	9 330	133
Sc XVII							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	45 650	45 637	13	45 650	45 637	13
$2s 2p^2 \ ^4P$	1/2	288 238	288 250	-12			
	3/2	306 788	306 780	8	18 550	18 530	20
	5/2	329 339	329 320	19	41 101	41 070	31
$2s 2p^2 \ ^2D$	3/2	516 810	516 640	170			
	5/2	520 763	520 630	133	3 953	3 990	-37
$2s 2p^2 \ ^2S$	1/2	632 725	632 370	355			
$2s 2p^2 \ ^2P$	1/2	682 573	682 220	353			
	3/2	695 279	694 950	329	12 706	12 730	-24
$2p^3 \ ^4S^o$	3/2	897 030	896 920	110			
$2p^3 \ ^2D^o$	3/2	1 008 223	1 008 090	133			
	5/2	1 015 402	1 015 250	152	7 179	7 160	19
$2p^3 \ ^2P^o$	1/2	1 129 417	1 129 040	377			
	3/2	1 142 908	1 142 540	368	13 491	13 500	-9
Ti XVIII							
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0			
	3/2	56 256	56 240	16	56 256	56 240	16
$2s 2p^2 \ ^4P$	1/2	309 600	309 980	-380			
	3/2	333 078	333 170	-92	23 478	23 190	288
	5/2	360 503	360 960	-457	50 903	50 980	-77
$2s 2p^2 \ ^2D$	3/2	556 036	555 860	176			
	5/2	561 915	561 700	215	5 879	5 840	39
$2s 2p^2 \ ^2S$	1/2	674 037	673 680	357			
$2s 2p^2 \ ^2P$	1/2	734 079	733 750	329			
	3/2	747 400	747 070	330	13 321	13 320	1
$2p^3 \ ^4S^o$	3/2	962 209	962 100	109			
$2p^3 \ ^2D^o$	3/2	1 078 989	1 078 800	189			
	5/2	1 089 207	1 088 900	307	10 218	10 100	118
$2p^3 \ ^2P^o$	1/2	1 209 198	1 208 800	398			
	3/2	1 227 995	1 227 700	295	18 797	18 900	-103

Continued. . .

Table 1 (continued)

Level	J	Level (cm^{-1})			Splitting (cm^{-1})		
		Calc.	Obs.	Diff.	Calc.	Obs.	Diff.
V XIX							
$2s^2 2p^2 P^o$	1/2	0	0	0			
	3/2	68 625	68 610	15	68 625	68 610	15
$2s 2p^2 4P$	1/2	331 887	332 180	-293			
	3/2	361 344	361 600	-256	29 457	29 420	37
	5/2	394 272	394 560	-288	62 385	62 380	5
$2s 2p^2 2D$	3/2	597 428	597 590	-162			
	5/2	605 946	605 320	626	8 518	7 730	788
$2s 2p^2 2P$	1/2	716 603	716 370	233			
	3/2	802 786	802 560	226	86 183	86 190	-7
$2s 2p^2 2S$	1/2	789 060	788 850	210			
$2p^3 4S^o$	3/2	1 030 502	1 030 850	-348			
$2p^3 2D^o$	3/2	1 152 755	1 152 900	-145			
	5/2	1 166 794	1 166 100	694	14 039	13 200	839
$2p^3 2P^o$	1/2	1 292 727	1 292 800	-73			
	3/2	1 318 357	1 318 200	157	25 630	25 400	230
Cr XX							
$2s^2 2p^2 P^o$	1/2	0	0	0			
	3/2	82 947	82 970	-23	82 947	82 970	-23
$2s 2p^2 4P$	1/2	355 119	354 570	549			
	3/2	391 787	391 360	427	36 668	36 790	-122
	5/2	430 846	430 650	196	75 727	76 080	-353
$2s 2p^2 2D$	3/2	641 178	640 950	228			
	5/2	653 245	653 080	165	12 067	12 130	-63
$2s 2p^2 2P$	1/2	760 632	760 270	362			
	3/2	861 835	861 500	335	101 203	101 230	-27
$2s 2p^2 2S$	1/2	847 892	847 560	332			
$2p^3 4S^o$	3/2	1 102 093	1 101 840	253			
$2p^3 2D^o$	3/2	1 229 882	1 229 600	282			
	5/2	1 248 562	1 248 380	182	18 680	18 780	-100
$2p^3 2P^o$	1/2	1 380 406	1 380 140	266			
	3/2	1 414 655	1 414 510	145	34 249	34 370	-121
Mn XXI							
$2s^2 2p^2 P^o$	1/2	0	0	0			
	3/2	99 426	99 360	66	99 426	99 360	66
$2s 2p^2 4P$	1/2	379 301	379 660	-359			
	3/2	424 614	424 980	-366	45 313	45 320	-7
	5/2	470 415	470 670	-255	91 114	91 010	104
$2s 2p^2 2D$	3/2	687 479	687 540	-61			
	5/2	704 236	704 190	46	16 757	16 650	107
$2s 2p^2 2P$	1/2	806 346	805 930	416			
	3/2	924 975	924 710	265	118 629	118 780	-151
$2s 2p^2 2S$	1/2	910 974	910 880	94			
$2p^3 4S^o$	3/2	1 177 129	1 177 430	-301			
$2p^3 2D^o$	3/2	1 310 799	1 310 890	-91			
	5/2	1 334 930	1 335 070	-140	24 131	24 180	-49
$2p^3 2P^o$	1/2	1 472 650	1 472 710	-60			
	3/2	1 517 569	1 517 410	159	44 919	44 700	219
Fe XXII							
$2s^2 2p^2 P^o$	1/2	0	0	0			
	3/2	118 272	118 266	6	118 272	118 266	6
$2s 2p^2 4P$	1/2	404 425	404 550	-125			
	3/2	460 045	460 190	-145	55 620	55 640	-20
	5/2	513 163	513 260	-97	108 738	108 710	28
$2s 2p^2 2D$	3/2	736 532	736 310	222			
	5/2	759 390	759 210	180	22 858	22 900	-42
$2s 2p^2 2P$	1/2	853 991	853 650	341			
	3/2	992 663	992 320	343	138 672	138 670	2
$2s 2p^2 2S$	1/2	978 736	978 350	386			
$2p^3 4S^o$	3/2	1 255 721	1 255 700	21			
$2p^3 2D^o$	3/2	1 396 019	1 396 110	-91			
	5/2	1 426 342	1 426 570	-228	30 323	30 460	-137
$2p^3 2P^o$	1/2	1 569 904	1 569 630	274			
	3/2	1 627 809	1 627 720	89	57 905	58 090	-185

Continued. . .

Table 1 (continued)

Level	J	Level (cm^{-1})			Splitting (cm^{-1})		
		Calc.	Obs.	Diff.	Calc.	Obs.	Diff.
Co XXIII							
$2s^2 2p^2 P^o$	1/2	0	0	0			
	3/2	139 712	139 290	422	139 712	139 290	422
$2s 2p^2 \ ^4P$	1/2	430 472	431 560	-1 088			
	3/2	498 309	499 270	-961	67 837	67 710	127
	5/2	559 266	559 760	-494	128 794	128 200	594
$2s 2p^2 \ ^2D$	3/2	788 546	788 520	26			
	5/2	819 221	819 150	71	30 675	30 630	45
$2s 2p^2 \ ^2P$	1/2	903 830	903 260	570			
	3/2	1 065 389	1 064 960	429	161 559	161 700	-141
$2s 2p^2 \ ^2S$	1/2	1 051 638	1 050 860	778			
$2p^3 \ ^4S^o$	3/2	1 337 944	1 338 760	-816			
$2p^3 \ ^2D^o$	3/2	1 486 134	1 486 350	-216			
	5/2	1 523 263	1 523 150	113	37 129	36 800	329
$2p^3 \ ^2P^o$	1/2	1 672 634	1 672 130	504			
	3/2	1 746 108	1 745 870	238	73 474	73 740	-266
Ni XXIV							
$2s^2 2p^2 P^o$	1/2	0	0	0			
	3/2	163 981	163 960	21	163 981	163 960	21
$2s 2p^2 \ ^4P$	1/2	457 405	457 440	-35			
	3/2	539 645	539 715	-70	82 240	82 275	-35
	5/2	608 887	608 975	-88	151 482	151 535	-53
$2s 2p^2 \ ^2D$	3/2	843 734	843 500	234			
	5/2	884 283	884 100	183	40 549	40 600	-51
$2s 2p^2 \ ^2P$	1/2	956 145	955 790	355			
	3/2	1 143 664	1 143 250	414	187 519	187 460	59
$2s 2p^2 \ ^2S$	1/2	1 130 168	1 129 710	458			
$2p^3 \ ^4S^o$	3/2	1 423 844	1 423 900	-56			
$2p^3 \ ^2D^o$	3/2	1 581 811	1 581 900	-89			
	5/2	1 626 181	1 626 200	-19	44 370	44 300	70
$2p^3 \ ^2P^o$	1/2	1 781 331	1 781 100	231			
	3/2	1 873 224	1 873 000	224	91 893	91 900	-7
Cu XXV							
$2s^2 2p^2 P^o$	1/2	0	0	0			
	3/2	191 329	191 280	49	191 329	191 280	49
$2s 2p^2 \ ^4P$	1/2	485 322	485 730	-408			
	3/2	584 451	584 920	-469	99 129	99 190	-61
	5/2	662 337	662 770	-433	177 015	177 040	-25
$2s 2p^2 \ ^2D$	3/2	902 458					
	5/2	955 308			52 850		
$2s 2p^2 \ ^2P$	1/2	1 011 360					
	3/2	1 228 156			216 769		
$2s 2p^2 \ ^2S$	1/2	1 214 962					
$2p^3 \ ^4S^o$	3/2	1 513 458	1 513 780	-322			
$2p^3 \ ^2D^o$	3/2	1 683 769					
	5/2	1 735 610			51 841		
$2p^3 \ ^2P^o$	1/2	1 896 509					
	3/2	2 009 947			113 438		
Zn XXVI							
$2s^2 2p^2 P^o$	1/2	0					
	3/2	222 016			222 016		
$2s 2p^2 \ ^4P$	1/2	513 738					
	3/2	632 556			118 818		
	5/2	719 350			205 612		
$2s 2p^2 \ ^2D$	3/2	964 557					
	5/2	1 032 523			67 966		
$2s 2p^2 \ ^2P$	1/2	1 069 429					
	3/2	1 319 062			249 633		
$2s 2p^2 \ ^2S$	1/2	1 306 216					
$2p^3 \ ^4S^o$	3/2	1 606 843					
$2p^3 \ ^2D^o$	3/2	1 792 754					
	5/2	1 852 089			59 335		
$2p^3 \ ^2P^o$	1/2	2 018 711					
	3/2	2 157 094			138 383		

Table 2

Convergence of energy levels in Si X. See page 8 for Explanation of Tables.

Level	J	$n = 3$	$n = 4$	$n = 5$	$n = 6$	$n = 7$	$n = 8$	$n = 9$	MR	Obs.
$2s^2 2p^2 \ ^2P^o$	1/2	0	0	0	0	0	0	0	0	0
	3/2	6 982	6 995	6 995	7 001	7 000	6 999	6 999	7 000	6 991
$2s 2p^2 \ ^4P$	1/2	159 247	160 052	160 333	160 775	160 821	160 902	160 929	160 953	161 010
	3/2	161 713	162 528	162 811	163 253	163 299	163 381	163 408	163 431	163 490
	5/2	165 267	166 092	166 378	166 818	166 864	166 946	166 973	166 997	167 060
$2s 2p^2 \ ^2D$	3/2	290 189	288 447	288 128	288 134	288 027	288 023	288 020	287 997	287 850
	5/2	290 194	288 463	288 144	288 152	288 045	288 041	288 038	288 011	287 880
$2s 2p^2 \ ^2S$	1/2	372 928	369 525	368 788	368 209	368 009	367 960	367 929	367 943	367 670
$2s 2p^2 \ ^2P$	1/2	393 839	391 379	390 834	390 550	390 400	390 362	390 349	390 289	390 040
	3/2	397 751	395 333	394 798	394 526	394 377	394 340	394 328	394 266	394 030
$2p^3 \ ^4S^o$	3/2	508 713	508 691	508 701	509 185	509 219	509 310	509 313	509 332	509 330
$2p^3 \ ^2D^o$	3/2	578 470	576 134	575 651	575 720	575 627	575 649	575 637	575 593	575 430
	5/2	578 479	576 172	575 694	575 770	575 679	575 701	575 690	575 621	575 450
$2p^3 \ ^2P^o$	1/2	652 480	648 412	647 617	647 326	647 156	647 096	647 076	647 032	646 760
	3/2	653 087	649 035	648 239	647 950	647 780	647 721	647 701	647 660	647 390

Table 3

Transition energies in cm^{-1} , rates in s^{-1} . See page 8 for Explanations of Tables.

States		Energies (cm^{-1})		Type	gf	A (s^{-1})	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
N III							
$2s^2 2p^2 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^2P_{1/2}^o$	174	176	M1	9.515e-09	4.942e-05	1.333e+00
$2s^2 2p^2 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^2P_{1/2}^o$	174	176	E2	1.560e-15	8.103e-12	1.690e+00
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	57187	57097	E1	3.192e-07	3.470e+02	1.840e-06
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	57246	57157	E1	1.815e-08	9.889e+00	1.046e-07
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	57246	57157	M2	1.011e-11	5.506e-03	2.421e+01
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	57327	57239	M2	5.739e-12	2.090e-03	1.369e+01
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	101023	101117	M2	6.670e-11	7.582e-02	2.886e+01
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	101030	101124	E1	2.471e-01	4.214e+08	8.046e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	101030	101124	M2	1.629e-12	2.779e-03	7.049e-01
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	131004	131378	E1	1.630e-01	9.385e+08	4.085e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	145875	146034	E1	5.280e-01	3.755e+09	1.190e+00
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	145985	146145	E1	2.652e-01	9.446e+08	5.975e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	145985	146145	M2	1.089e-11	3.879e-02	1.561e+00
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	57012	56921	E1	3.314e-07	3.581e+02	1.917e-06
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	57012	56921	M2	1.554e-12	1.680e-03	3.770e+00
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	57072	56981	E1	1.115e-07	6.035e+01	6.440e-07
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	57072	56981	M2	6.229e-13	3.372e-04	1.506e+00
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	57153	57063	E1	7.772e-07	2.813e+02	4.484e-06
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	57153	57063	M2	1.972e-11	7.139e-03	4.748e+01
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	100849	100940	E1	4.422e-01	5.009e+08	1.442e+00
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	100849	100940	M2	7.578e-11	8.583e-02	3.296e+01
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	100856	100948	E1	4.847e-02	8.237e+07	1.581e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	100856	100948	M2	9.113e-12	1.549e-02	3.963e+00
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	130829	131201	E1	3.147e-01	1.807e+09	7.897e-01
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	130829	131201	M2	1.990e-11	1.143e-01	3.942e+00
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	145701	145857	E1	2.696e-01	1.913e+09	6.084e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	145701	145857	M2	1.107e-11	7.857e-02	1.597e+00
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	145811	145969	E1	1.330e+00	4.726e+09	3.000e+00
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	145811	145969	M2	3.557e-11	1.264e-01	5.117e+00
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	59	60	M1	8.101e-09	4.881e-06	3.333e+00
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	59	60	E2	7.893e-18	4.756e-15	2.164e-01
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	140	141	E2	9.347e-16	2.093e-12	1.947e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	43836	44019	E2	1.969e-14	4.240e-06	1.374e-06
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	43843	44026	M1	2.901e-12	9.377e-04	1.629e-06
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	43843	44026	E2	9.094e-14	2.939e-05	6.346e-06
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	88798	89047	M1	9.881e-13	1.307e-03	2.744e-07
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	88798	89047	E2	5.345e-14	7.068e-05	4.509e-07
$2p^3 \ ^4S_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	129610	129658	E1	2.896e-01	8.120e+08	7.354e-01
$2p^3 \ ^4S_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	129610	129658	M2	6.069e-12	1.701e-02	1.246e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{1/2}$	145887	146073	M2	1.701e-11	4.036e-02	2.442e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	145901	146088	E1	3.662e-08	1.303e+02	8.253e-08
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	145901	146088	M2	1.395e-10	4.964e-01	2.001e+01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{1/2}$	173217	173713	E1	3.523e-07	3.546e+03	6.677e-07
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	173221	173713	E1	6.825e-08	3.435e+02	1.294e-07
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	173221	173713	M2	1.011e-11	5.089e-02	8.631e-01
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	81	81	M1	1.191e-08	8.867e-06	3.600e+00
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	81	81	E2	2.506e-16	1.866e-13	2.724e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	43777	43959	M1	1.175e-11	2.524e-03	6.609e-06
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	43777	43959	E2	2.030e-13	4.360e-05	1.423e-05
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	73757	74220	M1	3.469e-11	6.374e-02	1.156e-05
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	73757	74220	E2	4.457e-15	8.189e-06	6.493e-08
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	88628	88876	M1	3.052e-16	8.041e-07	8.493e-11
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	88628	88876	E2	1.238e-13	3.262e-04	1.050e-06
$2p^3 \ ^4S_{3/2}$	$2s2p^2 \ ^4P_{3/2}$	129550	129598	E1	5.788e-01	1.621e+09	1.470e+00
$2p^3 \ ^4S_{3/2}$	$2s2p^2 \ ^4P_{3/2}$	129550	129598	M2	3.854e-11	1.080e-01	7.922e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	145827	146013	E1	1.442e-07	3.417e+02	3.251e-07

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	145827	146013	M2	9.544e-11	2.262e-01	1.372e+01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	145842	146027	E1	1.148e-06	4.082e+03	2.588e-06
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	145842	146027	M2	1.372e-10	4.878e-01	1.971e+01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	173157	173653	E1	1.023e-07	1.029e+03	1.940e-07
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	173157	173653	M2	6.661e-11	6.699e-01	5.690e+00
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	173161	173653	E1	2.427e-06	1.220e+04	4.601e-06
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	173161	173653	M2	4.325e-12	2.175e-02	3.695e-01
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	43702	43884	M1	5.341e-12	1.715e-03	3.010e-06
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	43702	43884	E2	2.210e-13	7.098e-05	1.557e-05
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	73676	74138	E2	1.152e-13	2.113e-04	1.684e-06
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	88547	88794	E2	1.203e-15	3.164e-06	1.024e-08
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	88657	88905	M1	2.519e-12	3.321e-03	7.008e-07
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	88657	88905	E2	8.160e-16	1.076e-06	6.916e-09
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	129469	129516	E1	8.673e-01	2.426e+09	2.205e+00
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	129469	129516	M2	7.534e-11	2.107e-01	1.551e+01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	145746	145931	E1	5.528e-06	1.309e+04	1.247e-05
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	145746	145931	M2	1.434e-10	3.395e-01	2.064e+01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	145761	145946	E1	1.645e-07	5.842e+02	3.710e-07
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	145761	145946	M2	3.492e-11	1.240e-01	5.025e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{5/2}$	173076	173571	M2	3.759e-11	3.777e-01	3.216e+00
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	173080	173571	E1	8.923e-07	4.483e+03	1.693e-06
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	173080	173571	M2	1.321e-10	6.639e-01	1.130e+01
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	6	7	M1	7.167e-10	6.520e-09	2.400e+00
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	6	7	E2	1.183e-19	1.076e-18	1.748e+00
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	29980	30260	E2	2.180e-08	6.657e+00	4.685e+00
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	44851	44917	E2	1.129e-10	7.599e-02	7.422e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	44961	45028	M1	1.438e-11	4.863e-03	7.899e-06
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	44961	45028	E2	5.359e-10	1.812e-01	3.496e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	85773	85639	E1	1.395e-07	1.706e+02	5.361e-07
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	85773	85639	M2	2.515e-17	3.075e-08	1.791e-05
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	102050	102054	E1	7.953e-01	9.208e+08	2.566e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	102050	102054	M2	5.841e-11	6.763e-02	2.459e+01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	102065	102068	E1	5.840e-02	1.014e+08	1.883e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	102065	102068	M2	5.190e-11	9.016e-02	2.183e+01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{5/2}$	129380	129694	M2	2.449e-11	1.374e-01	5.022e+00
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	129384	129694	E1	7.119e-01	1.997e+09	1.807e+00
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	129384	129694	M2	2.108e-11	5.914e-02	4.324e+00
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	29973	30253	M1	9.921e-17	3.028e-08	8.109e-11
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	29973	30253	E2	1.450e-08	4.427e+00	3.119e+00
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	44845	44909	M1	8.182e-12	5.504e-03	4.505e-06
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	44845	44909	E2	2.696e-10	1.814e-01	1.773e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	85766	85631	E1	5.347e-10	6.538e-01	2.056e-09
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	85766	85631	M2	1.633e-16	1.997e-07	1.163e-04
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	102044	102046	E1	5.758e-02	6.666e+07	1.858e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	102044	102046	M2	5.201e-11	6.021e-02	2.189e+01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	102058	102061	E1	5.088e-01	8.837e+08	1.641e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	102058	102061	M2	1.435e-11	2.492e-02	6.037e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	129373	129686	E1	3.977e-01	2.231e+09	1.009e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	129373	129686	M2	1.089e-12	6.110e-03	2.234e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	129378	129686	E1	8.047e-02	2.257e+08	2.043e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	129378	129686	M2	4.287e-12	1.202e-02	8.793e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	14981	14767	M1	3.600e-11	1.309e-03	6.029e-05
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	14981	14767	E2	1.332e-14	4.844e-07	2.464e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	55792	55378	E1	1.475e-08	7.542e+00	8.767e-08
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	55792	55378	M2	5.147e-16	2.632e-07	1.356e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2S_{1/2}$	72070	71793	M2	1.461e-13	8.373e-05	1.767e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	72084	71807	E1	2.696e-05	2.318e+04	1.236e-04
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	72084	71807	M2	8.054e-14	6.925e-05	9.731e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2S_{1/2}$	99399	99433	E1	7.561e-02	2.493e+08	2.503e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	99404	99433	E1	1.572e-01	2.592e+08	5.205e-01
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	99404	99433	M2	5.869e-11	9.676e-02	2.671e+01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	110	111	M1	5.992e-09	1.234e-05	1.333e+00
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	110	111	E2	3.601e-16	7.418e-13	1.563e+00
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	40921	40721	E1	3.783e-07	1.046e+02	3.058e-06
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	40921	40721	M2	2.222e-12	6.146e-04	1.472e+01
$2p^3 \ ^2D^{\circ}_{5/2}$	$2s2p^2 \ ^2P_{1/2}$	57198	57136	M2	1.943e-12	7.050e-04	4.659e+00
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	57213	57151	E1	2.335e-01	1.272e+08	1.345e+00
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	57213	57151	M2	2.239e-14	1.220e-05	5.367e-02
$2p^3 \ ^2P^{\circ}_{1/2}$	$2s2p^2 \ ^2P_{1/2}$	84528	84777	E1	2.425e-01	5.814e+08	9.419e-01
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	84532	84777	E1	1.169e-01	1.401e+08	4.540e-01
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	84532	84777	M2	2.264e-13	2.714e-04	1.663e-01
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	40811	40610	E1	1.338e-06	3.680e+02	1.085e-05
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	40811	40610	M2	2.195e-12	6.038e-04	1.466e+01
$2p^3 \ ^2D^{\circ}_{5/2}$	$2s2p^2 \ ^2P_{3/2}$	57088	57025	E1	4.167e-01	1.506e+08	2.405e+00
$2p^3 \ ^2D^{\circ}_{5/2}$	$2s2p^2 \ ^2P_{3/2}$	57088	57025	M2	2.790e-12	1.009e-03	6.731e+00
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	57103	57040	E1	4.548e-02	2.468e+07	2.625e-01
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	57103	57040	M2	2.138e-13	1.160e-04	5.155e-01
$2p^3 \ ^2P^{\circ}_{1/2}$	$2s2p^2 \ ^2P_{3/2}$	84418	84665	E1	1.197e-01	2.861e+08	4.653e-01
$2p^3 \ ^2P^{\circ}_{1/2}$	$2s2p^2 \ ^2P_{3/2}$	84418	84665	M2	2.793e-13	6.677e-04	2.059e-01
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	84422	84665	E1	6.038e-01	7.218e+08	2.348e+00
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	84422	84665	M2	7.206e-12	8.614e-03	5.312e+00
$2p^3 \ ^2D^{\circ}_{5/2}$	$2p^3 \ ^4S^{\circ}_{3/2}$	16277	16415	M1	3.962e-14	1.187e-06	5.969e-08
$2p^3 \ ^2D^{\circ}_{5/2}$	$2p^3 \ ^4S^{\circ}_{3/2}$	16277	16415	E2	3.655e-14	1.095e-06	4.921e-05
$2p^3 \ ^2P^{\circ}_{1/2}$	$2p^3 \ ^4S^{\circ}_{3/2}$	43607	44055	M1	1.530e-11	9.905e-03	8.589e-06
$2p^3 \ ^2P^{\circ}_{1/2}$	$2p^3 \ ^4S^{\circ}_{3/2}$	43607	44055	E2	6.147e-15	3.979e-06	4.282e-07
$2p^3 \ ^2D^{\circ}_{3/2}$	$2p^3 \ ^2D^{\circ}_{5/2}$	14	14	M1	1.385e-09	4.702e-08	2.400e+00
$2p^3 \ ^2D^{\circ}_{3/2}$	$2p^3 \ ^2D^{\circ}_{5/2}$	14	14	E2	3.451e-22	1.172e-20	7.074e-04
$2p^3 \ ^2P^{\circ}_{1/2}$	$2p^3 \ ^2D^{\circ}_{5/2}$	27329	27640	E2	7.830e-09	1.995e+00	2.208e+00
$2p^3 \ ^2P^{\circ}_{3/2}$	$2p^3 \ ^2D^{\circ}_{5/2}$	27334	27640	M1	5.631e-11	7.174e-03	5.038e-05
$2p^3 \ ^2P^{\circ}_{3/2}$	$2p^3 \ ^2D^{\circ}_{5/2}$	27334	27640	E2	2.738e-08	3.488e+00	7.721e+00
$2p^3 \ ^2P^{\circ}_{1/2}$	$2p^3 \ ^2D^{\circ}_{3/2}$	27315	27625	M1	3.136e-11	7.983e-03	2.808e-05
$2p^3 \ ^2P^{\circ}_{1/2}$	$2p^3 \ ^2D^{\circ}_{3/2}$	27315	27625	E2	1.171e-08	2.980e+00	3.307e+00
$2p^3 \ ^2P^{\circ}_{3/2}$	$2p^3 \ ^2P^{\circ}_{1/2}$	4	0	M1	4.542e-13	5.377e-18	1.333e+00
$2p^3 \ ^2P^{\circ}_{3/2}$	$2p^3 \ ^2P^{\circ}_{1/2}$	4	0	E2	3.907e-30	4.625e-35	3.890e-02
O IV							
$2s^22p \ ^2P^{\circ}_{3/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	385	389	M1	2.100e-08	5.311e-04	1.333e+00
$2s^22p \ ^2P^{\circ}_{3/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	385	389	E2	7.200e-15	1.821e-10	7.258e-01
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	71439	71353	E1	8.620e-07	1.464e+03	3.977e-06
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	71570	71485	E1	4.779e-08	4.072e+01	2.201e-07
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	71570	71485	M2	1.320e-11	1.125e-02	1.616e+01
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	71755	71670	M2	7.549e-12	4.311e-03	9.174e+00
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	126936	127030	M2	8.646e-11	1.551e-01	1.887e+01
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	126950	127044	E1	2.237e-01	6.020e+08	5.796e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	126950	127044	M2	2.346e-12	6.314e-03	5.118e-01
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	164366	164644	E1	1.379e-01	1.246e+09	2.757e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	180480	180632	E1	4.378e-01	4.764e+09	7.980e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	180724	180876	E1	2.210e-01	1.206e+09	4.022e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P^{\circ}_{1/2}$	180724	180876	M2	1.424e-11	7.770e-02	1.077e+00
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P^{\circ}_{3/2}$	71053	70964	E1	8.563e-07	1.438e+03	3.972e-06
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P^{\circ}_{3/2}$	71053	70964	M2	2.005e-12	3.368e-03	2.510e+00
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P^{\circ}_{3/2}$	71184	71096	E1	3.378e-07	2.847e+02	1.564e-06
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P^{\circ}_{3/2}$	71184	71096	M2	8.046e-13	6.782e-04	1.002e+00
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P^{\circ}_{3/2}$	71369	71281	E1	2.115e-06	1.195e+03	9.767e-06
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P^{\circ}_{3/2}$	71369	71281	M2	2.559e-11	1.446e-02	3.161e+01
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P^{\circ}_{3/2}$	126550	126640	E1	3.986e-01	7.106e+08	1.036e+00
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P^{\circ}_{3/2}$	126550	126640	M2	9.381e-11	1.673e-01	2.066e+01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	126564	126654	E1	4.322e-02	1.156e+08	1.123e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	126564	126654	M2	1.222e-11	3.270e-02	2.692e+00
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	163980	164254	E1	2.567e-01	2.310e+09	5.145e-01
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	163980	164254	M2	2.847e-11	2.561e-01	2.874e+00
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	180094	180243	E1	2.283e-01	2.474e+09	4.170e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	180094	180243	M2	1.475e-11	1.598e-01	1.127e+00
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	180338	180487	E1	1.112e+00	6.040e+09	2.028e+00
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	180338	180487	M2	4.812e-11	2.614e-01	3.661e+00
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	130	131	M1	1.775e-08	5.137e-05	3.333e+00
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	130	131	E2	3.547e-17	1.026e-13	9.241e-02
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	315	316	E2	4.439e-15	4.955e-11	8.309e-01
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	55496	55676	E2	6.591e-14	2.272e-05	2.275e-06
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	55510	55690	M1	1.163e-11	6.015e-03	5.164e-06
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	55510	55690	E2	2.743e-13	1.418e-04	9.457e-06
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	109284	109522	M1	3.907e-12	7.815e-03	8.821e-07
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	109284	109522	E2	1.456e-13	2.913e-04	6.603e-07
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	160097	160128	E1	2.477e-01	1.059e+09	5.092e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	160097	160128	M2	7.951e-12	3.399e-02	8.663e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	183716	183889	M2	2.109e-11	7.929e-02	1.517e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	183745	183917	E1	1.286e-07	7.256e+02	2.303e-07
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	183745	183917	M2	1.734e-10	9.779e-01	1.247e+01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{1/2}$	217575	217945	E1	1.013e-06	1.605e+04	1.530e-06
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	217583	217951	E1	9.114e-08	7.220e+02	1.377e-07
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	217583	217951	M2	1.323e-11	1.048e-01	5.716e-01
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	185	185	M1	2.695e-08	1.027e-04	3.599e+00
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	185	185	E2	1.239e-15	4.721e-12	1.163e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	55366	55544	M1	4.416e-11	1.515e-02	1.966e-05
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	55366	55544	E2	5.629e-13	1.931e-04	1.956e-05
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	92796	93158	M1	1.336e-10	3.868e-01	3.547e-05
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	92796	93158	E2	1.483e-14	4.292e-05	1.092e-07
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	108910	109147	M1	3.631e-16	1.443e-06	8.228e-11
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	108910	109147	E2	3.256e-13	1.294e-03	1.491e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	159967	159997	E1	4.947e-01	2.112e+09	1.018e+00
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	159967	159997	M2	5.027e-11	2.146e-01	5.491e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	183585	183757	E1	3.920e-07	1.471e+03	7.022e-07
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	183585	183757	M2	1.184e-10	4.446e-01	8.540e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	183614	183786	E1	2.977e-06	1.677e+04	5.333e-06
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	183614	183786	M2	1.699e-10	9.568e-01	1.224e+01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	217445	217813	E1	1.886e-07	2.985e+03	2.851e-07
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	217445	217813	M2	8.899e-11	1.408e+00	3.853e+00
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	217453	217819	E1	5.502e-06	4.353e+04	8.315e-06
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	217453	217819	M2	5.930e-12	4.692e-02	2.567e-01
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	55194	55373	M1	1.954e-11	9.992e-03	8.727e-06
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	55194	55373	E2	5.793e-13	2.962e-04	2.032e-05
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	92610	92973	E2	3.069e-13	8.848e-04	2.274e-06
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	108725	108961	E2	6.824e-15	2.702e-05	3.142e-08
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	108968	109206	M1	1.055e-11	2.098e-02	2.389e-06
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	108968	109206	E2	9.319e-15	1.853e-05	4.262e-08
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	159782	159811	E1	7.408e-01	3.155e+09	1.526e+00
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	159782	159811	M2	9.771e-11	4.162e-01	1.071e+01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	183400	183572	E1	1.484e-05	5.560e+04	2.661e-05
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	183400	183572	M2	1.782e-10	6.676e-01	1.289e+01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	183429	183601	E1	5.512e-07	3.098e+03	9.884e-07
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	183429	183601	M2	4.247e-11	2.387e-01	3.070e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{5/2}$	217259	217628	M2	5.034e-11	7.951e-01	2.185e+00
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	217268	217634	E1	2.026e-06	1.601e+04	3.065e-06
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	217268	217634	M2	1.774e-10	1.401e+00	7.698e+00
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	13	14	M1	1.369e-09	4.541e-08	2.399e+00
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	13	14	E2	3.475e-19	1.153e-17	7.375e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	37430	37614	E2	1.819e-08	8.582e+00	2.035e+00
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	53544	53602	E2	7.159e-11	6.860e-02	2.769e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	53787	53846	M1	5.683e-11	2.748e-02	2.610e-05
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	53787	53846	E2	4.599e-10	2.224e-01	1.755e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	104601	104452	E1	1.820e-07	3.311e+02	5.736e-07
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	104601	104452	M2	8.788e-17	1.599e-07	3.450e-05
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	128219	128213	E1	7.413e-01	1.355e+09	1.903e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	128219	128213	M2	8.199e-11	1.498e-01	1.740e+01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	128248	128241	E1	5.549e-02	1.522e+08	1.424e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	128248	128241	M2	6.536e-11	1.793e-01	1.387e+01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	162079	162268	M2	3.435e-11	3.016e-01	3.596e+00
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	162087	162274	E1	5.792e-01	2.544e+09	1.175e+00
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	162087	162274	M2	2.954e-11	1.297e-01	3.092e+00
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	37416	37600	M1	2.501e-15	1.179e-06	1.645e-09
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	37416	37600	E2	1.207e-08	5.692e+00	1.353e+00
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	53530	53588	M1	3.205e-11	3.069e-02	1.479e-05
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	53530	53588	E2	2.645e-10	2.534e-01	1.024e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	104587	104438	E1	4.063e-11	7.391e-02	1.281e-10
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	104587	104438	M2	6.368e-16	1.158e-06	2.501e-04
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	128205	128198	E1	5.429e-02	9.919e+07	1.394e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	128205	128198	M2	6.566e-11	1.200e-01	1.394e+01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	128234	128227	E1	4.726e-01	1.296e+09	1.213e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	128234	128227	M2	1.679e-11	4.603e-02	3.562e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	162065	162254	E1	3.252e-01	2.855e+09	6.597e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	162065	162254	M2	1.572e-12	1.380e-02	1.646e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	162073	162260	E1	6.651e-02	2.920e+08	1.349e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	162073	162260	M2	6.168e-12	2.708e-02	6.459e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	16357	16232	M1	1.583e-10	6.954e-03	2.411e-04
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	16357	16232	E2	3.443e-14	1.513e-06	4.794e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	67171	66838	E1	4.167e-08	3.104e+01	2.052e-07
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	67171	66838	M2	2.124e-15	1.582e-06	3.183e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2S_{1/2}$	90789	90598	M2	1.097e-13	1.001e-04	6.602e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	90818	90627	E1	9.891e-05	1.355e+05	3.593e-04
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	90818	90627	M2	4.342e-14	5.947e-05	2.610e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2S_{1/2}$	124649	124654	E1	7.534e-02	3.904e+08	1.990e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	124657	124660	E1	1.621e-01	4.201e+08	4.281e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	124657	124660	M2	7.379e-11	1.912e-01	1.704e+01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	243	244	M1	1.316e-08	1.308e-04	1.333e+00
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	243	244	E2	1.645e-15	1.635e-11	6.736e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	51056	50850	E1	8.980e-07	3.872e+02	5.814e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	51056	50850	M2	2.820e-12	1.216e-03	9.595e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{1/2}$	74675	74610	M2	2.899e-12	1.794e-03	3.123e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	74704	74639	E1	2.349e-01	2.182e+08	1.036e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	74704	74639	M2	4.669e-14	4.338e-05	5.023e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{1/2}$	108534	108666	E1	2.259e-01	8.896e+08	6.843e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	108542	108672	E1	1.049e-01	2.066e+08	3.178e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	108542	108672	M2	3.479e-13	6.850e-04	1.213e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	50813	50605	E1	3.371e-06	1.439e+03	2.193e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	50813	50605	M2	2.762e-12	1.180e-03	9.534e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	74431	74366	E1	4.166e-01	2.561e+08	1.844e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	74431	74366	M2	3.784e-12	2.327e-03	4.117e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	74460	74395	E1	4.491e-02	4.145e+07	1.987e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	74460	74395	M2	3.499e-13	3.229e-04	3.801e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	108291	108422	E1	1.101e-01	4.316e+08	3.342e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	108291	108422	M2	5.008e-13	1.964e-03	1.758e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	108299	108428	E1	5.596e-01	1.097e+09	1.699e+00
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	108299	108428	M2	8.475e-12	1.661e-02	2.974e+00
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	23618	23760	M1	9.886e-14	6.205e-06	1.029e-07

Continued. . .

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	23618	23760	E2	1.386e-13	8.700e-06	6.154e-05
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	57477	57816	M1	5.712e-11	6.368e-02	2.443e-05
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	57477	57816	E2	9.305e-15	1.037e-05	2.867e-07
$2p^3 \ ^2D_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	29	28	M1	2.762e-09	3.731e-07	2.400e+00
$2p^3 \ ^2D_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	29	28	E2	1.137e-23	1.536e-21	2.937e-06
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{5/2}^o$	33859	34055	E2	6.486e-09	2.509e+00	9.781e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	33867	34061	M1	2.220e-10	4.295e-02	1.611e-04
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	33867	34061	E2	2.268e-08	4.387e+00	3.418e+00
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	33830	34027	M1	1.233e-10	4.763e-02	8.963e-05
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	33830	34027	E2	9.684e-09	3.740e+00	1.464e+00
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	8	6	M1	3.400e-10	2.256e-09	1.333e+00
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	8	6	E2	3.365e-22	2.233e-21	7.987e-03
F V							
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	744	749	M1	4.041e-08	3.788e-03	1.333e+00
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	744	749	E2	2.582e-14	2.420e-09	3.648e-01
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	85790	85701	E1	1.975e-06	4.839e+03	7.589e-06
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	86043	85955	E1	1.071e-07	1.320e+02	4.102e-07
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	86043	85955	M2	1.638e-11	2.018e-02	1.154e+01
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	86407	86319	M2	9.465e-12	7.840e-03	6.583e+00
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	152874	152970	M2	1.062e-10	2.764e-01	1.328e+01
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	152898	152993	E1	2.022e-01	7.892e+08	4.351e-01
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	152898	152993	M2	3.061e-12	1.195e-02	3.825e-01
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	197566	197819	E1	1.227e-01	1.602e+09	2.042e-01
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	214880	215035	E1	3.719e-01	5.735e+09	5.694e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	215348	215504	E1	1.892e-01	1.465e+09	2.890e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	215348	215504	M2	1.756e-11	1.360e-01	7.851e-01
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	85045	84952	E1	1.899e-06	4.571e+03	7.359e-06
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	85045	84952	M2	2.446e-12	5.888e-03	1.785e+00
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	85299	85205	E1	8.251e-07	9.989e+02	3.188e-06
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	85299	85205	M2	9.835e-13	1.191e-03	7.112e-01
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	85662	85569	E1	4.847e-06	3.946e+03	1.865e-05
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	85662	85569	M2	3.149e-11	2.563e-02	2.248e+01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	152130	152220	E1	3.582e-01	9.226e+08	7.746e-01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	152130	152220	M2	1.119e-10	2.884e-01	1.420e+01
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	152154	152243	E1	3.823e-02	1.478e+08	8.267e-02
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	152154	152243	M2	1.530e-11	5.914e-02	1.940e+00
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	196821	197069	E1	2.161e-01	2.799e+09	3.609e-01
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	196821	197069	M2	3.644e-11	4.720e-01	2.130e+00
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	214135	214285	E1	2.004e-01	3.070e+09	3.079e-01
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	214135	214285	M2	1.872e-11	2.866e-01	8.510e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	214603	214754	E1	9.565e-01	7.356e+09	1.466e+00
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	214603	214754	M2	6.081e-11	4.676e-01	2.747e+00
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	253	253	M1	3.421e-08	3.678e-04	3.332e+00
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	253	253	E2	1.264e-16	1.358e-12	4.598e-02
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	616	617	E2	1.637e-14	6.948e-10	4.133e-01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	67084	67268	E2	1.569e-13	7.894e-05	3.070e-06
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	67108	67291	M1	3.668e-11	2.770e-02	1.348e-05
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	67108	67291	E2	6.441e-13	4.864e-04	1.259e-05
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	129557	129802	M1	1.222e-11	3.434e-02	2.328e-06
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	129557	129802	E2	3.050e-13	8.569e-04	8.306e-07
$2p^3 \ ^4S_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	190623	190663	E1	2.161e-01	1.310e+09	3.731e-01
$2p^3 \ ^4S_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	190623	190663	M2	9.897e-12	6.000e-02	6.388e-01
$2p^3 \ ^2D_{5/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	221437	221619	M2	2.524e-11	1.378e-01	1.037e+00
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	221484	221666	E1	3.269e-07	2.679e+03	4.856e-07
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	221484	221666	M2	2.082e-10	1.706e+00	8.553e+00
$2p^3 \ ^2P_{1/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	261630	261965	E1	2.277e-06	5.212e+04	2.862e-06
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	261652	261984	E1	1.210e-07	1.384e+03	1.520e-07
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	261652	261984	M2	1.586e-11	1.815e-01	3.946e-01

Continued. . .

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2\ ^4P_{5/2}$	$2s2p^2\ ^4P_{3/2}$	363	363	M1	5.298e-08	7.802e-04	3.599e+00
$2s2p^2\ ^4P_{5/2}$	$2s2p^2\ ^4P_{3/2}$	363	363	E2	4.681e-15	6.894e-11	5.782e-01
$2s2p^2\ ^2D_{5/2}$	$2s2p^2\ ^4P_{3/2}$	66831	67014	M1	1.345e-10	6.716e-02	4.964e-05
$2s2p^2\ ^2D_{5/2}$	$2s2p^2\ ^4P_{3/2}$	66831	67014	E2	1.283e-12	6.407e-04	2.539e-05
$2s2p^2\ ^2S_{1/2}$	$2s2p^2\ ^4P_{3/2}$	111522	111863	M1	4.106e-10	1.714e+00	9.077e-05
$2s2p^2\ ^2S_{1/2}$	$2s2p^2\ ^4P_{3/2}$	111522	111863	E2	3.825e-14	1.597e-04	1.628e-07
$2s2p^2\ ^2P_{1/2}$	$2s2p^2\ ^4P_{3/2}$	128836	129079	M1	5.099e-14	2.833e-04	9.768e-09
$2s2p^2\ ^2P_{1/2}$	$2s2p^2\ ^4P_{3/2}$	128836	129079	E2	6.645e-13	3.693e-03	1.840e-06
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	190370	190409	E1	4.314e-01	2.608e+09	7.458e-01
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	190370	190409	M2	6.216e-11	3.758e-01	4.029e+00
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^4P_{3/2}$	221183	221365	E1	9.185e-07	5.004e+03	1.366e-06
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^4P_{3/2}$	221183	221365	M2	1.419e-10	7.732e-01	5.853e+00
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	221231	221412	E1	6.761e-06	5.527e+04	1.005e-05
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	221231	221412	M2	2.029e-10	1.659e+00	8.364e+00
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^4P_{3/2}$	261377	261711	E1	3.939e-07	8.998e+03	4.955e-07
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^4P_{3/2}$	261377	261711	M2	1.101e-10	2.514e+00	2.747e+00
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	261399	261730	E1	1.117e-05	1.276e+05	1.406e-05
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	261399	261730	M2	7.611e-12	8.694e-02	1.899e-01
$2s2p^2\ ^2D_{3/2}$	$2s2p^2\ ^4P_{5/2}$	66491	66673	M1	5.847e-11	4.334e-02	2.168e-05
$2s2p^2\ ^2D_{3/2}$	$2s2p^2\ ^4P_{5/2}$	66491	66673	E2	1.268e-12	9.401e-04	2.548e-05
$2s2p^2\ ^2S_{1/2}$	$2s2p^2\ ^4P_{5/2}$	111159	111500	E2	7.222e-13	2.994e-03	3.103e-06
$2s2p^2\ ^2P_{1/2}$	$2s2p^2\ ^4P_{5/2}$	128473	128715	E2	2.487e-14	1.374e-04	6.946e-08
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^4P_{5/2}$	128941	129184	M1	3.380e-11	9.407e-02	6.471e-06
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^4P_{5/2}$	128941	129184	E2	3.885e-14	1.081e-04	1.073e-07
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	190006	190045	E1	6.453e-01	3.887e+09	1.118e+00
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	190006	190045	M2	1.199e-10	7.223e-01	7.817e+00
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^4P_{5/2}$	220820	221001	E1	3.341e-05	1.814e+05	4.977e-05
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^4P_{5/2}$	220820	221001	M2	2.140e-10	1.162e+00	8.869e+00
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	220868	221048	E1	1.317e-06	1.073e+04	1.961e-06
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	220868	221048	M2	4.943e-11	4.027e-01	2.047e+00
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^4P_{5/2}$	261013	261347	M2	6.246e-11	1.423e+00	1.565e+00
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	261035	261366	E1	4.212e-06	4.798e+04	5.305e-06
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	261035	261366	M2	2.208e-10	2.516e+00	5.533e+00
$2s2p^2\ ^2D_{3/2}$	$2s2p^2\ ^2D_{5/2}$	24	22	M1	2.212e-09	1.919e-07	2.399e+00
$2s2p^2\ ^2D_{3/2}$	$2s2p^2\ ^2D_{5/2}$	24	22	E2	7.269e-19	6.304e-17	3.650e-01
$2s2p^2\ ^2S_{1/2}$	$2s2p^2\ ^2D_{5/2}$	44691	44848	E2	1.545e-08	1.036e+01	1.020e+00
$2s2p^2\ ^2P_{1/2}$	$2s2p^2\ ^2D_{5/2}$	62005	62064	E2	2.810e-11	3.611e-02	7.001e-04
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^2D_{5/2}$	62473	62533	M1	1.787e-10	1.165e-01	7.067e-05
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^2D_{5/2}$	62473	62533	E2	3.505e-10	2.285e-01	8.536e-03
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	123539	123394	E1	2.658e-07	6.748e+02	7.091e-07
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	123539	123394	M2	2.609e-16	6.625e-07	6.213e-05
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2D_{5/2}$	154352	154350	E1	6.759e-01	1.790e+09	1.442e+00
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2D_{5/2}$	154352	154350	M2	1.053e-10	2.788e-01	1.281e+01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	154400	154397	E1	5.200e-02	2.067e+08	1.109e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	154400	154397	M2	7.876e-11	3.131e-01	9.573e+00
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2D_{5/2}$	194545	194696	M2	4.375e-11	5.531e-01	2.652e+00
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	194567	194715	E1	4.964e-01	3.138e+09	8.393e-01
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	194567	194715	M2	3.866e-11	2.444e-01	2.343e+00
$2s2p^2\ ^2S_{1/2}$	$2s2p^2\ ^2D_{3/2}$	44667	44826	M1	2.947e-14	1.975e-05	1.626e-08
$2s2p^2\ ^2S_{1/2}$	$2s2p^2\ ^2D_{3/2}$	44667	44826	E2	1.022e-08	6.851e+00	6.760e-01
$2s2p^2\ ^2P_{1/2}$	$2s2p^2\ ^2D_{3/2}$	61981	62042	M1	1.000e-10	1.284e-01	3.986e-05
$2s2p^2\ ^2P_{1/2}$	$2s2p^2\ ^2D_{3/2}$	61981	62042	E2	2.496e-10	3.204e-01	6.225e-03
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2D_{3/2}$	123515	123371	E1	7.649e-10	1.942e+00	2.041e-09
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2D_{3/2}$	123515	123371	M2	1.976e-15	5.015e-06	4.708e-04
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2D_{3/2}$	154328	154327	E1	5.031e-02	1.332e+08	1.073e-01
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2D_{3/2}$	154328	154327	M2	7.941e-11	2.103e-01	9.666e+00
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2D_{3/2}$	154376	154374	E1	4.288e-01	1.704e+09	9.144e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2D_{3/2}$	154376	154374	M2	1.934e-11	7.686e-02	2.352e+00
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2D_{3/2}$	194521	194673	E1	2.806e-01	3.547e+09	4.745e-01

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Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2p ³ 2P ^o _{1/2}	2s2p ² 2D _{3/2}	194521	194673	M2	1.988e-12	2.513e-02	1.206e-01
2p ³ 2P ^o _{3/2}	2s2p ² 2D _{3/2}	194543	194692	E1	5.824e-02	3.681e+08	9.848e-02
2p ³ 2P ^o _{3/2}	2s2p ² 2D _{3/2}	194543	194692	M2	7.997e-12	5.055e-02	4.848e-01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	17781	17684	M1	5.476e-10	2.856e-02	7.658e-04
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	17781	17684	E2	7.968e-14	4.155e-06	8.581e-05
2p ³ 4S ^o _{3/2}	2s2p ² 2S _{1/2}	78847	78545	E1	1.016e-07	1.045e+02	4.257e-07
2p ³ 4S ^o _{3/2}	2s2p ² 2S _{1/2}	78847	78545	M2	7.168e-15	7.374e-06	6.617e-03
2p ³ 2D ^o _{5/2}	2s2p ² 2S _{1/2}	109660	109501	M2	1.052e-13	1.402e-04	3.584e-02
2p ³ 2D ^o _{3/2}	2s2p ² 2S _{1/2}	109708	109548	E1	2.807e-04	5.617e+05	8.435e-04
2p ³ 2D ^o _{3/2}	2s2p ² 2S _{1/2}	109708	109548	M2	2.133e-14	4.269e-05	7.260e-03
2p ³ 2P ^o _{1/2}	2s2p ² 2S _{1/2}	149854	149847	E1	6.838e-02	5.121e+08	1.502e-01
2p ³ 2P ^o _{3/2}	2s2p ² 2S _{1/2}	149876	149866	E1	1.553e-01	5.818e+08	3.412e-01
2p ³ 2P ^o _{3/2}	2s2p ² 2S _{1/2}	149876	149866	M2	8.935e-11	3.347e-01	1.188e+01
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	467	468	M1	2.524e-08	9.236e-04	1.332e+00
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	467	468	E2	5.891e-15	2.156e-10	3.413e-01
2p ³ 4S ^o _{3/2}	2s2p ² 2P _{1/2}	61533	61329	E1	1.939e-06	1.216e+03	1.041e-05
2p ³ 4S ^o _{3/2}	2s2p ² 2P _{1/2}	61533	61329	M2	3.465e-12	2.173e-03	6.719e+00
2p ³ 2D ^o _{5/2}	2s2p ² 2P _{1/2}	92346	92285	M2	3.854e-12	3.649e-03	2.194e+00
2p ³ 2D ^o _{3/2}	2s2p ² 2P _{1/2}	92394	92332	E1	2.254e-01	3.205e+08	8.038e-01
2p ³ 2D ^o _{3/2}	2s2p ² 2P _{1/2}	92394	92332	M2	7.475e-14	1.063e-04	4.248e-02
2p ³ 2P ^o _{1/2}	2s2p ² 2P _{1/2}	132540	132631	E1	2.091e-01	1.227e+09	5.190e-01
2p ³ 2P ^o _{3/2}	2s2p ² 2P _{1/2}	132562	132650	E1	9.170e-02	2.691e+08	2.276e-01
2p ³ 2P ^o _{3/2}	2s2p ² 2P _{1/2}	132562	132650	M2	3.927e-13	1.152e-03	7.527e-02
2p ³ 4S ^o _{3/2}	2s2p ² 2P _{3/2}	61065	60861	E1	7.439e-06	4.595e+03	4.024e-05
2p ³ 4S ^o _{3/2}	2s2p ² 2P _{3/2}	61065	60861	M2	3.354e-12	2.072e-03	6.657e+00
2p ³ 2D ^o _{5/2}	2s2p ² 2P _{3/2}	91879	91817	E1	3.965e-01	3.716e+08	1.422e+00
2p ³ 2D ^o _{5/2}	2s2p ² 2P _{3/2}	91879	91817	M2	4.703e-12	4.408e-03	2.718e+00
2p ³ 2D ^o _{3/2}	2s2p ² 2P _{3/2}	91926	91864	E1	4.197e-02	5.907e+07	1.504e-01
2p ³ 2D ^o _{3/2}	2s2p ² 2P _{3/2}	91926	91864	M2	4.923e-13	6.928e-04	2.841e-01
2p ³ 2P ^o _{1/2}	2s2p ² 2P _{3/2}	132072	132163	E1	1.000e-01	5.827e+08	2.492e-01
2p ³ 2P ^o _{1/2}	2s2p ² 2P _{3/2}	132072	132163	M2	7.359e-13	4.287e-03	1.426e-01
2p ³ 2P ^o _{3/2}	2s2p ² 2P _{3/2}	132094	132182	E1	5.139e-01	1.497e+09	1.280e+00
2p ³ 2P ^o _{3/2}	2s2p ² 2P _{3/2}	132094	132182	M2	9.748e-12	2.840e-02	1.888e+00
2p ³ 2D ^o _{5/2}	2p ³ 4S ^o _{3/2}	30813	30955	M1	2.727e-13	2.905e-05	2.178e-07
2p ³ 2D ^o _{5/2}	2p ³ 4S ^o _{3/2}	30813	30955	E2	3.800e-13	4.048e-05	7.629e-05
2p ³ 2P ^o _{1/2}	2p ³ 4S ^o _{3/2}	71006	71301	M1	1.734e-10	2.940e-01	6.013e-05
2p ³ 2P ^o _{1/2}	2p ³ 4S ^o _{3/2}	71006	71301	E2	1.320e-14	2.238e-05	2.168e-07
2p ³ 2D ^o _{3/2}	2p ³ 2D ^o _{5/2}	47	46	M1	4.552e-09	1.671e-06	2.399e+00
2p ³ 2D ^o _{3/2}	2p ³ 2D ^o _{5/2}	47	46	E2	1.327e-21	4.872e-19	7.656e-05
2p ³ 2P ^o _{1/2}	2p ³ 2D ^o _{5/2}	40193	40346	E2	5.435e-09	2.950e+00	4.929e-01
2p ³ 2P ^o _{3/2}	2p ³ 2D ^o _{5/2}	40215	40365	M1	6.981e-10	1.897e-01	4.277e-04
2p ³ 2P ^o _{3/2}	2p ³ 2D ^o _{5/2}	40215	40365	E2	1.900e-08	5.163e+00	1.721e+00
2p ³ 2P ^o _{1/2}	2p ³ 2D ^o _{3/2}	40145	40299	M1	3.874e-10	2.098e-01	2.377e-04
2p ³ 2P ^o _{1/2}	2p ³ 2D ^o _{3/2}	40145	40299	E2	8.100e-09	4.387e+00	7.371e-01
2p ³ 2P ^o _{3/2}	2p ³ 2P ^o _{1/2}	21	19	M1	1.027e-09	6.216e-08	1.333e+00
2p ³ 2P ^o _{3/2}	2p ³ 2P ^o _{1/2}	21	19	E2	3.761e-21	2.277e-19	3.238e-03
Ne VI							
2s ² 2p 2P ^o _{3/2}	2s ² 2p 2P ^o _{1/2}	1306	1311	M1	7.069e-08	2.028e-02	1.333e+00
2s ² 2p 2P ^o _{3/2}	2s ² 2p 2P ^o _{1/2}	1306	1311	E2	7.725e-14	2.216e-08	2.039e-01
2s2p ² 4P _{1/2}	2s ² 2p 2P ^o _{1/2}	100297	100203	E1	4.071e-06	1.363e+04	1.337e-05
2s2p ² 4P _{3/2}	2s ² 2p 2P ^o _{1/2}	100737	100650	E1	2.153e-07	3.638e+02	7.043e-07
2s2p ² 4P _{3/2}	2s ² 2p 2P ^o _{1/2}	100737	100650	M2	1.970e-11	3.328e-02	8.644e+00
2s2p ² 4P _{5/2}	2s ² 2p 2P ^o _{1/2}	101383	101298	M2	1.154e-11	1.316e-02	4.965e+00
2s2p ² 2D _{5/2}	2s ² 2p 2P ^o _{1/2}	178988	179093	M2	1.263e-10	4.502e-01	9.832e+00
2s2p ² 2D _{3/2}	2s ² 2p 2P ^o _{1/2}	179018	179125	E1	1.842e-01	9.854e+08	3.385e-01
2s2p ² 2D _{3/2}	2s ² 2p 2P ^o _{1/2}	179018	179125	M2	3.765e-12	2.015e-02	2.931e-01
2s2p ² 2S _{1/2}	2s ² 2p 2P ^o _{1/2}	230851	231103	E1	1.136e-01	2.023e+09	1.618e-01

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Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2P _{1/2}	2s ² 2p 2P ^o _{1/2}	249286	249455	E1	3.208e-01	6.657e+09	4.233e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P ^o _{3/2}	250099	250271	E1	1.653e-01	1.726e+09	2.174e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P ^o _{1/2}	250099	250271	M2	2.090e-11	2.183e-01	5.965e-01
2s2p ² 4P _{1/2}	2s ² 2p 2P ^o _{3/2}	98990	98892	E1	3.810e-06	1.243e+04	1.268e-05
2s2p ² 4P _{1/2}	2s ² 2p 2P ^o _{3/2}	98990	98892	M2	2.876e-12	9.380e-03	1.330e+00
2s2p ² 4P _{3/2}	2s ² 2p 2P ^o _{3/2}	99430	99338	E1	1.757e-06	2.892e+03	5.825e-06
2s2p ² 4P _{3/2}	2s ² 2p 2P ^o _{3/2}	99430	99338	M2	1.159e-12	1.907e-03	5.289e-01
2s2p ² 4P _{5/2}	2s ² 2p 2P ^o _{3/2}	100076	99986	E1	9.929e-06	1.104e+04	3.269e-05
2s2p ² 4P _{5/2}	2s ² 2p 2P ^o _{3/2}	100076	99986	M2	3.744e-11	4.161e-02	1.676e+01
2s2p ² 2D _{5/2}	2s ² 2p 2P ^o _{3/2}	177681	177781	E1	3.237e-01	1.137e+09	5.994e-01
2s2p ² 2D _{5/2}	2s ² 2p 2P ^o _{3/2}	177681	177781	M2	1.305e-10	4.584e-01	1.039e+01
2s2p ² 2D _{3/2}	2s ² 2p 2P ^o _{3/2}	177711	177814	E1	3.381e-02	1.783e+08	6.260e-02
2s2p ² 2D _{3/2}	2s ² 2p 2P ^o _{3/2}	177711	177814	M2	1.834e-11	9.668e-02	1.459e+00
2s2p ² 2S _{1/2}	2s ² 2p 2P ^o _{3/2}	229544	229791	E1	1.844e-01	3.248e+09	2.642e-01
2s2p ² 2S _{1/2}	2s ² 2p 2P ^o _{3/2}	229544	229791	M2	4.389e-11	7.730e-01	1.618e+00
2s2p ² 2P _{1/2}	2s ² 2p 2P ^o _{3/2}	247979	248143	E1	1.814e-01	3.726e+09	2.407e-01
2s2p ² 2P _{1/2}	2s ² 2p 2P ^o _{3/2}	247979	248143	M2	2.321e-11	4.767e-01	6.797e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P ^o _{3/2}	248792	248959	E1	8.407e-01	8.690e+09	1.112e+00
2s2p ² 2P _{3/2}	2s ² 2p 2P ^o _{3/2}	248792	248959	M2	7.374e-11	7.621e-01	2.138e+00
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	440	446	M1	6.018e-08	2.002e-03	3.332e+00
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	440	446	E2	3.803e-16	1.265e-11	2.541e-02
2s2p ² 4P _{5/2}	2s2p ² 4P _{1/2}	1086	1094	E2	5.025e-14	6.690e-09	2.284e-01
2s2p ² 2D _{5/2}	2s2p ² 4P _{1/2}	78691	78889	E2	3.272e-13	2.264e-04	3.969e-06
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	78720	78922	M1	9.787e-11	1.017e-01	3.066e-05
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	78720	78922	E2	1.337e-12	1.389e-03	1.620e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	149802	150067	M1	3.247e-11	1.219e-01	5.350e-06
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	149802	150067	E2	5.819e-13	2.185e-03	1.025e-06
2p ³ 4S ^o _{3/2}	2s2p ² 4P _{1/2}	221314	221362	E1	1.916e-01	1.566e+09	2.850e-01
2p ³ 4S ^o _{3/2}	2s2p ² 4P _{1/2}	221314	221362	M2	1.194e-11	9.754e-02	4.923e-01
2p ³ 2D ^o _{5/2}	2s2p ² 4P _{1/2}	259239	259441	M2	2.944e-11	2.203e-01	7.542e-01
2p ³ 2D ^o _{3/2}	2s2p ² 4P _{1/2}	259307	259508	E1	6.853e-07	7.696e+03	8.693e-07
2p ³ 2D ^o _{3/2}	2s2p ² 4P _{1/2}	259307	259508	M2	2.441e-10	2.741e+00	6.248e+00
2p ³ 2P ^o _{1/2}	2s2p ² 4P _{1/2}	305710	306046	E1	4.489e-06	1.402e+05	4.829e-06
2p ³ 2P ^o _{3/2}	2s2p ² 4P _{1/2}	305752	306091	E1	1.654e-07	2.585e+03	1.779e-07
2p ³ 2P ^o _{3/2}	2s2p ² 4P _{1/2}	305752	306091	M2	1.812e-11	2.831e-01	2.827e-01
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	646	647	M1	9.426e-08	4.396e-03	3.599e+00
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	646	647	E2	1.457e-14	6.794e-10	3.194e-01
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	78251	78443	M1	3.527e-10	2.413e-01	1.112e-04
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	78251	78443	E2	2.601e-12	1.779e-03	3.209e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	130114	130452	M1	1.077e-09	6.113e+00	2.042e-04
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	130114	130452	E2	7.920e-14	4.495e-04	2.125e-07
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	148548	148805	M1	7.058e-13	5.212e-03	1.173e-07
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	148548	148805	E2	1.249e-12	9.226e-03	2.258e-06
2p ³ 4S ^o _{3/2}	2s2p ² 4P _{3/2}	220874	220916	E1	3.822e-01	3.111e+09	5.696e-01
2p ³ 4S ^o _{3/2}	2s2p ² 4P _{3/2}	220874	220916	M2	7.429e-11	6.046e-01	3.083e+00
2p ³ 2D ^o _{5/2}	2s2p ² 4P _{3/2}	258799	258995	E1	1.899e-06	1.416e+04	2.414e-06
2p ³ 2D ^o _{5/2}	2s2p ² 4P _{3/2}	258799	258995	M2	1.659e-10	1.237e+00	4.271e+00
2p ³ 2D ^o _{3/2}	2s2p ² 4P _{3/2}	258867	259062	E1	1.389e-05	1.554e+05	1.765e-05
2p ³ 2D ^o _{3/2}	2s2p ² 4P _{3/2}	258867	259062	M2	2.362e-10	2.643e+00	6.078e+00
2p ³ 2P ^o _{1/2}	2s2p ² 4P _{3/2}	305270	305599	E1	7.584e-07	2.362e+04	8.170e-07
2p ³ 2P ^o _{1/2}	2s2p ² 4P _{3/2}	305270	305599	M2	1.312e-10	4.087e+00	2.057e+00
2p ³ 2P ^o _{3/2}	2s2p ² 4P _{3/2}	305312	305644	E1	2.072e-05	3.228e+05	2.232e-05
2p ³ 2P ^o _{3/2}	2s2p ² 4P _{3/2}	305312	305644	M2	9.526e-12	1.484e-01	1.492e-01
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	77634	77827	M1	1.515e-10	1.530e-01	4.813e-05
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	77634	77827	E2	2.487e-12	2.512e-03	3.142e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	129467	129805	E2	1.498e-12	8.416e-03	4.078e-06
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	147902	148157	E2	7.621e-14	5.579e-04	1.396e-07
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	148715	148973	M1	9.053e-11	3.350e-01	1.503e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	148715	148973	E2	1.194e-13	4.418e-04	2.151e-07

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 4P_{5/2}$	220228	220268	E1	5.711e-01	4.621e+09	8.536e-01
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 4P_{5/2}$	220228	220268	M2	1.419e-10	1.148e+00	5.941e+00
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 4P_{5/2}$	258153	258347	E1	6.685e-05	4.961e+05	8.519e-05
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 4P_{5/2}$	258153	258347	M2	2.508e-10	1.861e+00	6.506e+00
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 4P_{5/2}$	258221	258414	E1	2.601e-06	2.896e+04	3.313e-06
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 4P_{5/2}$	258221	258414	M2	5.548e-11	6.178e-01	1.438e+00
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 4P_{5/2}$	304623	304951	M2	7.479e-11	2.320e+00	1.180e+00
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 4P_{5/2}$	304665	304996	E1	7.966e-06	1.236e+05	8.598e-06
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 4P_{5/2}$	304665	304996	M2	2.656e-10	4.120e+00	4.188e+00
$2s2p^2\ 2D_{3/2}$	$2s2p^2\ 2D_{5/2}$	29	32	M1	3.130e-09	5.435e-07	2.399e+00
$2s2p^2\ 2D_{3/2}$	$2s2p^2\ 2D_{5/2}$	29	32	E2	1.137e-18	1.974e-16	2.016e-01
$2s2p^2\ 2S_{1/2}$	$2s2p^2\ 2D_{5/2}$	51863	52009	E2	1.339e-08	1.208e+01	5.668e-01
$2s2p^2\ 2P_{1/2}$	$2s2p^2\ 2D_{5/2}$	70297	70361	E2	2.586e-12	4.269e-03	4.421e-05
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2D_{5/2}$	71111	71177	M1	4.778e-10	4.037e-01	1.660e-04
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2D_{5/2}$	71111	71177	E2	2.555e-10	2.158e-01	4.220e-03
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	142623	142472	E1	3.953e-07	1.338e+03	9.135e-07
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	142623	142472	M2	6.833e-16	2.313e-06	1.057e-04
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	180548	180551	E1	6.154e-01	2.230e+09	1.122e+00
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	180548	180551	M2	1.284e-10	4.655e-01	9.762e+00
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	180616	180619	E1	4.910e-02	2.671e+08	8.950e-02
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	180616	180619	M2	9.205e-11	5.008e-01	6.989e+00
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	227019	227156	M2	5.305e-11	9.130e-01	2.025e+00
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	227061	227201	E1	4.350e-01	3.744e+09	6.302e-01
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	227061	227201	M2	4.882e-11	4.203e-01	1.862e+00
$2s2p^2\ 2S_{1/2}$	$2s2p^2\ 2D_{3/2}$	51833	51977	M1	2.304e-13	2.076e-04	1.096e-07
$2s2p^2\ 2S_{1/2}$	$2s2p^2\ 2D_{3/2}$	51833	51977	E2	8.829e-09	7.955e+00	3.745e-01
$2s2p^2\ 2P_{1/2}$	$2s2p^2\ 2D_{3/2}$	70268	70329	M1	2.651e-10	4.373e-01	9.320e-05
$2s2p^2\ 2P_{1/2}$	$2s2p^2\ 2D_{3/2}$	70268	70329	E2	2.481e-10	4.093e-01	4.248e-03
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	142593	142440	E1	9.388e-09	3.176e+01	2.170e-08
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	142593	142440	M2	5.215e-15	1.765e-05	8.073e-04
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	180519	180519	E1	4.682e-02	1.696e+08	8.538e-02
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	180519	180519	M2	9.333e-11	3.381e-01	7.098e+00
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	180587	180586	E1	3.878e-01	2.109e+09	7.069e-01
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	180587	180586	M2	2.195e-11	1.194e-01	1.668e+00
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	226989	227124	E1	2.482e-01	4.270e+09	3.598e-01
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	226989	227124	M2	2.370e-12	4.077e-02	9.049e-02
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	227031	227169	E1	5.251e-02	4.519e+08	7.610e-02
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	227031	227169	M2	9.895e-12	8.516e-02	3.776e-01
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2S_{1/2}$	19248	19168	M1	1.600e-09	9.801e-02	2.064e-03
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2S_{1/2}$	19248	19168	E2	1.675e-13	1.026e-05	1.416e-04
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	90760	90463	E1	2.286e-07	3.119e+02	8.318e-07
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	90760	90463	M2	2.073e-14	2.829e-05	1.253e-02
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	128685	128542	M2	1.233e-13	2.266e-04	2.598e-02
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	128753	128609	E1	6.769e-04	1.867e+06	1.733e-03
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	128753	128609	M2	6.478e-15	1.787e-05	1.362e-03
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	175156	175146	E1	5.987e-02	6.126e+08	1.125e-01
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	175198	175192	E1	1.473e-01	7.539e+08	2.768e-01
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	175198	175192	M2	1.053e-10	5.388e-01	8.759e+00
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2P_{1/2}$	813	815	M1	4.390e-08	4.869e-03	1.331e+00
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2P_{1/2}$	813	815	E2	1.754e-14	1.945e-09	1.925e-01
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	72325	72110	E1	3.839e-06	3.329e+03	1.753e-05
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	72325	72110	M2	4.152e-12	3.600e-03	4.953e+00
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	110251	110189	M2	4.818e-12	6.503e-03	1.611e+00
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	110319	110257	E1	2.134e-01	4.327e+08	6.373e-01
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	110319	110257	M2	1.054e-13	2.137e-04	3.519e-02
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	156721	156794	E1	1.946e-01	1.596e+09	4.087e-01
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	156763	156839	E1	7.854e-02	3.222e+08	1.648e-01
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	156763	156839	M2	3.336e-13	1.368e-03	3.868e-02

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3\ 4S_{3/2}^o$	$2s2p^2\ 2P_{3/2}$	71512	71295	E1	1.475e-05	1.251e+04	6.813e-05
$2p^3\ 4S_{3/2}^o$	$2s2p^2\ 2P_{3/2}$	71512	71295	M2	3.962e-12	3.358e-03	4.890e+00
$2p^3\ 2D_{5/2}^o$	$2s2p^2\ 2P_{3/2}$	109437	109374	E1	3.716e-01	4.942e+08	1.119e+00
$2p^3\ 2D_{5/2}^o$	$2s2p^2\ 2P_{3/2}$	109437	109374	M2	5.564e-12	7.399e-03	1.902e+00
$2p^3\ 2D_{3/2}^o$	$2s2p^2\ 2P_{3/2}$	109505	109441	E1	3.837e-02	7.663e+07	1.154e-01
$2p^3\ 2D_{3/2}^o$	$2s2p^2\ 2P_{3/2}$	109505	109441	M2	6.417e-13	1.282e-03	2.190e-01
$2p^3\ 2P_{1/2}^o$	$2s2p^2\ 2P_{3/2}$	155907	155978	E1	9.072e-02	7.361e+08	1.915e-01
$2p^3\ 2P_{1/2}^o$	$2s2p^2\ 2P_{3/2}$	155907	155978	M2	9.786e-13	7.940e-03	1.154e-01
$2p^3\ 2P_{3/2}^o$	$2s2p^2\ 2P_{3/2}$	155950	156023	E1	4.728e-01	1.919e+09	9.976e-01
$2p^3\ 2P_{3/2}^o$	$2s2p^2\ 2P_{3/2}$	155950	156023	M2	1.107e-11	4.493e-02	1.304e+00
$2p^3\ 2D_{5/2}^o$	$2p^3\ 4S_{3/2}^o$	37925	38078	M1	7.987e-13	1.287e-04	5.187e-07
$2p^3\ 2D_{5/2}^o$	$2p^3\ 4S_{3/2}^o$	37925	38078	E2	8.640e-13	1.393e-04	9.319e-05
$2p^3\ 2P_{1/2}^o$	$2p^3\ 4S_{3/2}^o$	84395	84683	M1	4.520e-10	1.081e+00	1.320e-04
$2p^3\ 2P_{1/2}^o$	$2p^3\ 4S_{3/2}^o$	84395	84683	E2	1.597e-14	3.819e-05	1.566e-07
$2p^3\ 2D_{3/2}^o$	$2p^3\ 2D_{5/2}^o$	67	67	M1	6.520e-09	4.913e-06	2.399e+00
$2p^3\ 2D_{3/2}^o$	$2p^3\ 2D_{5/2}^o$	67	67	E2	1.109e-20	8.356e-18	2.175e-04
$2p^3\ 2P_{1/2}^o$	$2p^3\ 2D_{5/2}^o$	46470	46604	E2	4.668e-09	3.382e+00	2.747e-01
$2p^3\ 2P_{3/2}^o$	$2p^3\ 2D_{5/2}^o$	46512	46649	M1	1.866e-09	6.770e-01	9.890e-04
$2p^3\ 2P_{3/2}^o$	$2p^3\ 2D_{5/2}^o$	46512	46649	E2	1.633e-08	5.926e+00	9.581e-01
$2p^3\ 2P_{1/2}^o$	$2p^3\ 2D_{3/2}^o$	46402	46537	M1	1.034e-09	7.467e-01	5.493e-04
$2p^3\ 2P_{1/2}^o$	$2p^3\ 2D_{3/2}^o$	46402	46537	E2	6.944e-09	5.016e+00	4.103e-01
$2p^3\ 2P_{3/2}^o$	$2p^3\ 2P_{1/2}^o$	42	45	M1	2.426e-09	8.204e-07	1.332e+00
$2p^3\ 2P_{3/2}^o$	$2p^3\ 2P_{1/2}^o$	42	45	E2	2.772e-20	9.373e-18	1.807e-03
Na VII							
$2s^22p\ 2P_{3/2}^o$	$2s^22p\ 2P_{1/2}^o$	2135	2141	M1	1.154e-07	8.825e-02	1.333e+00
$2s^22p\ 2P_{3/2}^o$	$2s^22p\ 2P_{1/2}^o$	2135	2141	E2	2.028e-13	1.551e-07	1.230e-01
$2s2p^2\ 4P_{1/2}$	$2s^22p\ 2P_{1/2}^o$	114995	114920	E1	7.597e-06	3.346e+04	2.176e-05
$2s2p^2\ 4P_{3/2}$	$2s^22p\ 2P_{1/2}^o$	115728	115655	E1	3.929e-07	8.763e+02	1.118e-06
$2s2p^2\ 4P_{3/2}$	$2s^22p\ 2P_{1/2}^o$	115728	115655	M2	2.321e-11	5.178e-02	6.713e+00
$2s2p^2\ 4P_{5/2}$	$2s^22p\ 2P_{1/2}^o$	116798	116725	M2	1.383e-11	2.095e-02	3.890e+00
$2s2p^2\ 2D_{5/2}$	$2s^22p\ 2P_{1/2}^o$	205412	205524	M2	1.466e-10	6.885e-01	7.555e+00
$2s2p^2\ 2D_{3/2}$	$2s^22p\ 2P_{1/2}^o$	205448	205564	E1	1.694e-01	1.193e+09	2.712e-01
$2s2p^2\ 2D_{3/2}$	$2s^22p\ 2P_{1/2}^o$	205448	205564	M2	4.447e-12	3.134e-02	2.290e-01
$2s2p^2\ 2S_{1/2}$	$2s^22p\ 2P_{1/2}^o$	264400	264637	E1	1.088e-01	2.541e+09	1.353e-01
$2s2p^2\ 2P_{1/2}$	$2s^22p\ 2P_{1/2}^o$	283869	284041	E1	2.789e-01	7.504e+09	3.232e-01
$2s2p^2\ 2P_{3/2}$	$2s^22p\ 2P_{1/2}^o$	285189	285358	E1	1.464e-01	1.988e+09	1.689e-01
$2s2p^2\ 2P_{3/2}$	$2s^22p\ 2P_{1/2}^o$	285189	285358	M2	2.430e-11	3.300e-01	4.679e-01
$2s2p^2\ 4P_{1/2}$	$2s^22p\ 2P_{3/2}^o$	112860	112779	E1	6.889e-06	2.922e+04	2.011e-05
$2s2p^2\ 4P_{1/2}$	$2s^22p\ 2P_{3/2}^o$	112860	112779	M2	3.290e-12	1.396e-02	1.026e+00
$2s2p^2\ 4P_{3/2}$	$2s^22p\ 2P_{3/2}^o$	113593	113513	E1	3.371e-06	7.242e+03	9.775e-06
$2s2p^2\ 4P_{3/2}$	$2s^22p\ 2P_{3/2}^o$	113593	113513	M2	1.330e-12	2.858e-03	4.068e-01
$2s2p^2\ 4P_{5/2}$	$2s^22p\ 2P_{3/2}^o$	114663	114583	E1	1.855e-05	2.707e+04	5.329e-05
$2s2p^2\ 4P_{5/2}$	$2s^22p\ 2P_{3/2}^o$	114663	114583	M2	4.348e-11	6.346e-02	1.293e+01
$2s2p^2\ 2D_{5/2}$	$2s^22p\ 2P_{3/2}^o$	203277	203382	E1	2.947e-01	1.355e+09	4.770e-01
$2s2p^2\ 2D_{5/2}$	$2s^22p\ 2P_{3/2}^o$	203277	203382	M2	1.496e-10	6.879e-01	7.955e+00
$2s2p^2\ 2D_{3/2}$	$2s^22p\ 2P_{3/2}^o$	203313	203422	E1	2.992e-02	2.064e+08	4.841e-02
$2s2p^2\ 2D_{3/2}$	$2s^22p\ 2P_{3/2}^o$	203313	203422	M2	2.132e-11	1.471e-01	1.133e+00
$2s2p^2\ 2S_{1/2}$	$2s^22p\ 2P_{3/2}^o$	262265	262495	E1	1.580e-01	3.631e+09	1.982e-01
$2s2p^2\ 2S_{1/2}$	$2s^22p\ 2P_{3/2}^o$	262265	262495	M2	5.068e-11	1.165e+00	1.254e+00
$2s2p^2\ 2P_{1/2}$	$2s^22p\ 2P_{3/2}^o$	281734	281900	E1	1.687e-01	4.472e+09	1.971e-01
$2s2p^2\ 2P_{1/2}$	$2s^22p\ 2P_{3/2}^o$	281734	281900	M2	2.855e-11	7.567e-01	5.701e-01
$2s2p^2\ 2P_{3/2}$	$2s^22p\ 2P_{3/2}^o$	283054	283217	E1	7.514e-01	1.005e+10	8.735e-01
$2s2p^2\ 2P_{3/2}$	$2s^22p\ 2P_{3/2}^o$	283054	283217	M2	8.707e-11	1.165e+00	1.715e+00
$2s2p^2\ 4P_{3/2}$	$2s2p^2\ 4P_{1/2}$	733	734	M1	9.889e-08	8.888e-03	3.331e+00
$2s2p^2\ 4P_{3/2}$	$2s2p^2\ 4P_{1/2}$	733	734	E2	1.008e-15	9.062e-11	1.517e-02
$2s2p^2\ 4P_{5/2}$	$2s2p^2\ 4P_{1/2}$	1803	1804	E2	1.344e-13	4.863e-08	1.363e-01
$2s2p^2\ 2D_{5/2}$	$2s2p^2\ 4P_{1/2}$	90417	90603	E2	6.067e-13	5.537e-04	4.858e-06

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	90453	90643	M1	2.303e-10	3.155e-01	6.283e-05
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	90453	90643	E2	2.515e-12	3.446e-03	2.012e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	170194	170438	M1	7.621e-11	3.692e-01	1.106e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	170194	170438	E2	1.028e-12	4.977e-03	1.236e-06
2p ³ 4S _{3/2}	2s2p ² 4P _{1/2}	252313	252352	E1	1.723e-01	1.830e+09	2.248e-01
2p ³ 4S _{3/2}	2s2p ² 4P _{1/2}	252313	252352	M2	1.411e-11	1.499e-01	3.929e-01
2p ³ 2D _{5/2}	2s2p ² 4P _{1/2}	297316	297509	M2	3.371e-11	3.317e-01	5.727e-01
2p ³ 2D _{3/2}	2s2p ² 4P _{1/2}	297400	297593	E1	1.256e-06	1.854e+04	1.389e-06
2p ³ 2D _{3/2}	2s2p ² 4P _{1/2}	297400	297593	M2	2.812e-10	4.152e+00	4.773e+00
2p ³ 2P _{1/2}	2s2p ² 4P _{1/2}	350022	350345	E1	8.071e-06	3.304e+05	7.584e-06
2p ³ 2P _{3/2}	2s2p ² 4P _{1/2}	350116	350441	E1	2.321e-07	4.754e+03	2.181e-07
2p ³ 2P _{3/2}	2s2p ² 4P _{1/2}	350116	350441	M2	1.992e-11	4.080e-01	2.071e-01
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	1070	1069	M1	1.557e-07	1.982e-02	3.599e+00
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	1070	1069	E2	3.919e-14	4.988e-09	1.905e-01
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	89684	89869	M1	8.260e-10	7.417e-01	2.273e-04
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	89684	89869	E2	4.826e-12	4.333e-03	3.960e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	148672	148982	M1	2.505e-09	1.854e+01	4.158e-04
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	148672	148982	E2	1.388e-13	1.028e-03	2.501e-07
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	168141	168386	M1	5.272e-12	4.986e-02	7.743e-07
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	168141	168386	E2	2.198e-12	2.078e-02	2.742e-06
2p ³ 4S _{3/2}	2s2p ² 4P _{3/2}	251580	251618	E1	3.432e-01	3.624e+09	4.491e-01
2p ³ 4S _{3/2}	2s2p ² 4P _{3/2}	251580	251618	M2	8.675e-11	9.159e-01	2.436e+00
2p ³ 2D _{5/2}	2s2p ² 4P _{3/2}	296583	296775	E1	3.568e-06	3.493e+04	3.958e-06
2p ³ 2D _{5/2}	2s2p ² 4P _{3/2}	296583	296775	M2	1.904e-10	1.864e+00	3.258e+00
2p ³ 2D _{3/2}	2s2p ² 4P _{3/2}	296667	296859	E1	2.650e-05	3.894e+05	2.939e-05
2p ³ 2D _{3/2}	2s2p ² 4P _{3/2}	296667	296859	M2	2.697e-10	3.963e+00	4.612e+00
2p ³ 2P _{1/2}	2s2p ² 4P _{3/2}	349289	349611	E1	1.354e-06	5.521e+04	1.275e-06
2p ³ 2P _{1/2}	2s2p ² 4P _{3/2}	349289	349611	M2	1.527e-10	6.224e+00	1.598e+00
2p ³ 2P _{3/2}	2s2p ² 4P _{3/2}	349383	349707	E1	3.577e-05	7.294e+05	3.367e-05
2p ³ 2P _{3/2}	2s2p ² 4P _{3/2}	349383	349707	M2	1.178e-11	2.402e-01	1.232e-01
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	88650	88839	M1	3.523e-10	4.636e-01	9.806e-05
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	88650	88839	E2	4.469e-12	5.882e-03	3.796e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	147602	147912	E2	2.826e-12	2.062e-02	5.201e-06
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	167071	167316	E2	2.059e-13	1.922e-03	2.618e-07
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	168391	168633	M1	2.121e-10	1.006e+00	3.111e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	168391	168633	E2	2.999e-13	1.422e-03	3.724e-07
2p ³ 4S _{3/2}	2s2p ² 4P _{5/2}	250510	250548	E1	5.120e-01	5.360e+09	6.728e-01
2p ³ 4S _{3/2}	2s2p ² 4P _{5/2}	250510	250548	M2	1.636e-10	1.713e+00	4.655e+00
2p ³ 2D _{5/2}	2s2p ² 4P _{5/2}	295513	295705	E1	1.228e-04	1.193e+06	1.367e-04
2p ³ 2D _{5/2}	2s2p ² 4P _{5/2}	295513	295705	M2	2.888e-10	2.808e+00	4.998e+00
2p ³ 2D _{3/2}	2s2p ² 4P _{5/2}	295597	295789	E1	4.482e-06	6.539e+04	4.988e-06
2p ³ 2D _{3/2}	2s2p ² 4P _{5/2}	295597	295789	M2	6.034e-11	8.803e-01	1.043e+00
2p ³ 2P _{1/2}	2s2p ² 4P _{5/2}	348219	348541	M2	8.751e-11	3.545e+00	9.246e-01
2p ³ 2P _{3/2}	2s2p ² 4P _{5/2}	348313	348637	E1	1.401e-05	2.840e+05	1.323e-05
2p ³ 2P _{3/2}	2s2p ² 4P _{5/2}	348313	348637	M2	3.124e-10	6.332e+00	3.298e+00
2s2p ² 2D _{3/2}	2s2p ² 2D _{5/2}	36	39	M1	3.872e-09	1.029e-06	2.398e+00
2s2p ² 2D _{3/2}	2s2p ² 2D _{5/2}	36	39	E2	1.286e-18	3.417e-16	1.204e-01
2s2p ² 2S _{1/2}	2s2p ² 2D _{5/2}	58988	59113	E2	1.178e-08	1.373e+01	3.396e-01
2s2p ² 2P _{1/2}	2s2p ² 2D _{5/2}	78457	78517	E2	6.338e-12	1.303e-02	7.798e-05
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	79777	79834	M1	1.131e-09	1.202e+00	3.502e-04
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	79777	79834	E2	1.838e-10	1.954e-01	2.152e-03
2p ³ 4S _{3/2}	2s2p ² 2D _{5/2}	161896	161749	E1	5.890e-07	2.570e+03	1.199e-06
2p ³ 4S _{3/2}	2s2p ² 2D _{5/2}	161896	161749	M2	1.624e-15	7.087e-06	1.717e-04
2p ³ 2D _{5/2}	2s2p ² 2D _{5/2}	206899	206906	E1	5.628e-01	2.678e+09	8.954e-01
2p ³ 2D _{5/2}	2s2p ² 2D _{5/2}	206899	206906	M2	1.516e-10	7.213e-01	7.655e+00
2p ³ 2D _{3/2}	2s2p ² 2D _{5/2}	206983	206990	E1	4.701e-02	3.359e+08	7.477e-02
2p ³ 2D _{3/2}	2s2p ² 2D _{5/2}	206983	206990	M2	1.053e-10	7.520e-01	5.310e+00
2p ³ 2P _{1/2}	2s2p ² 2D _{5/2}	259605	259742	M2	6.233e-11	1.402e+00	1.591e+00
2p ³ 2P _{3/2}	2s2p ² 2D _{5/2}	259699	259838	E1	3.867e-01	4.353e+09	4.899e-01

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Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	259699	259838	M2	6.038e-11	6.798e-01	1.540e+00
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	58952	59073	M1	1.366e-12	1.590e-03	5.718e-07
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	58952	59073	E2	7.734e-09	9.001e+00	2.235e-01
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	78421	78477	M1	6.208e-10	1.275e+00	1.956e-04
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	78421	78477	E2	2.688e-10	5.520e-01	3.312e-03
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2D_{3/2}$	161860	161709	E1	4.989e-08	2.175e+02	1.016e-07
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2D_{3/2}$	161860	161709	M2	1.220e-14	5.318e-05	1.290e-03
$2p^3 \ ^2D^{\circ}_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	206863	206866	E1	4.403e-02	2.095e+08	7.007e-02
$2p^3 \ ^2D^{\circ}_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	206863	206866	M2	1.076e-10	5.117e-01	5.436e+00
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2D_{3/2}$	206947	206950	E1	3.515e-01	2.510e+09	5.591e-01
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2D_{3/2}$	206947	206950	M2	2.462e-11	1.759e-01	1.243e+00
$2p^3 \ ^2P^{\circ}_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	259569	259702	E1	2.234e-01	5.025e+09	2.832e-01
$2p^3 \ ^2P^{\circ}_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	259569	259702	M2	2.722e-12	6.124e-02	6.953e-02
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2D_{3/2}$	259663	259798	E1	4.841e-02	5.448e+08	6.134e-02
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2D_{3/2}$	259663	259798	M2	1.193e-11	1.343e-01	3.044e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	20789	20721	M1	4.126e-09	2.955e-01	4.925e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	20789	20721	E2	3.283e-13	2.351e-05	2.198e-04
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	102908	102636	E1	4.993e-07	8.770e+02	1.601e-06
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	102908	102636	M2	5.336e-14	9.374e-05	2.208e-02
$2p^3 \ ^2D^{\circ}_{5/2}$	$2s2p^2 \ ^2S_{1/2}$	147911	147793	M2	1.699e-13	4.126e-04	2.355e-02
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	147995	147877	E1	1.457e-03	5.313e+06	3.243e-03
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	147995	147877	M2	4.857e-18	1.771e-08	6.720e-07
$2p^3 \ ^2P^{\circ}_{1/2}$	$2s2p^2 \ ^2S_{1/2}$	200617	200629	E1	5.097e-02	6.842e+08	8.363e-02
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	200711	200724	E1	1.403e-01	9.424e+08	2.301e-01
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	200711	200724	M2	1.216e-10	8.169e-01	6.726e+00
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	1320	1317	M1	7.073e-08	2.046e-02	1.328e+00
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	1320	1317	E2	4.494e-14	1.300e-08	1.172e-01
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	83439	83231	E1	7.097e-06	8.198e+03	2.807e-05
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	83439	83231	M2	4.887e-12	5.645e-03	3.792e+00
$2p^3 \ ^2D^{\circ}_{5/2}$	$2s2p^2 \ ^2P_{1/2}$	128442	128388	M2	5.799e-12	1.063e-02	1.226e+00
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	128526	128472	E1	2.015e-01	5.546e+08	5.163e-01
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	128526	128472	M2	1.373e-13	3.778e-04	2.896e-02
$2p^3 \ ^2P^{\circ}_{1/2}$	$2s2p^2 \ ^2P_{1/2}$	181148	181224	E1	1.830e-01	2.005e+09	3.325e-01
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	181242	181320	E1	6.568e-02	3.601e+08	1.192e-01
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	181242	181320	M2	1.808e-13	9.910e-04	1.357e-02
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	82119	81914	E1	2.693e-05	3.014e+04	1.083e-04
$2p^3 \ ^4S^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	82119	81914	M2	4.585e-12	5.130e-03	3.732e+00
$2p^3 \ ^2D^{\circ}_{5/2}$	$2s2p^2 \ ^2P_{3/2}$	127122	127071	E1	3.469e-01	6.228e+08	8.988e-01
$2p^3 \ ^2D^{\circ}_{5/2}$	$2s2p^2 \ ^2P_{3/2}$	127122	127071	M2	6.379e-12	1.145e-02	1.391e+00
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	127206	127155	E1	3.465e-02	9.343e+07	8.972e-02
$2p^3 \ ^2D^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	127206	127155	M2	8.003e-13	2.158e-03	1.741e-01
$2p^3 \ ^2P^{\circ}_{1/2}$	$2s2p^2 \ ^2P_{3/2}$	179828	179907	E1	8.243e-02	8.899e+08	1.509e-01
$2p^3 \ ^2P^{\circ}_{1/2}$	$2s2p^2 \ ^2P_{3/2}$	179828	179907	M2	1.229e-12	1.326e-02	9.439e-02
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	179922	180003	E1	4.377e-01	2.365e+09	8.005e-01
$2p^3 \ ^2P^{\circ}_{3/2}$	$2s2p^2 \ ^2P_{3/2}$	179922	180003	M2	1.247e-11	6.736e-02	9.562e-01
$2p^3 \ ^2D^{\circ}_{5/2}$	$2p^3 \ ^4S^{\circ}_{3/2}$	45003	45157	M1	2.387e-12	5.411e-04	1.307e-06
$2p^3 \ ^2D^{\circ}_{5/2}$	$2p^3 \ ^4S^{\circ}_{3/2}$	45003	45157	E2	1.736e-12	3.934e-04	1.123e-04
$2p^3 \ ^2P^{\circ}_{1/2}$	$2p^3 \ ^4S^{\circ}_{3/2}$	97709	97993	M1	1.050e-09	3.362e+00	2.649e-04
$2p^3 \ ^2P^{\circ}_{1/2}$	$2p^3 \ ^4S^{\circ}_{3/2}$	97709	97993	E2	1.535e-14	4.917e-05	9.717e-08
$2p^3 \ ^2D^{\circ}_{3/2}$	$2p^3 \ ^2D^{\circ}_{5/2}$	84	83	M1	8.124e-09	9.511e-06	2.398e+00
$2p^3 \ ^2D^{\circ}_{3/2}$	$2p^3 \ ^2D^{\circ}_{5/2}$	84	83	E2	3.555e-20	4.163e-17	3.600e-04
$2p^3 \ ^2P^{\circ}_{1/2}$	$2p^3 \ ^2D^{\circ}_{5/2}$	52706	52835	E2	4.087e-09	3.805e+00	1.650e-01
$2p^3 \ ^2P^{\circ}_{3/2}$	$2p^3 \ ^2D^{\circ}_{5/2}$	52800	52931	M1	4.411e-09	2.061e+00	2.061e-03
$2p^3 \ ^2P^{\circ}_{3/2}$	$2p^3 \ ^2D^{\circ}_{5/2}$	52800	52931	E2	1.432e-08	6.689e+00	5.749e-01
$2p^3 \ ^2P^{\circ}_{1/2}$	$2p^3 \ ^2D^{\circ}_{3/2}$	52622	52751	M1	2.440e-09	2.265e+00	1.144e-03
$2p^3 \ ^2P^{\circ}_{1/2}$	$2p^3 \ ^2D^{\circ}_{3/2}$	52622	52751	E2	6.068e-09	5.632e+00	2.462e-01
$2p^3 \ ^2P^{\circ}_{3/2}$	$2p^3 \ ^2P^{\circ}_{1/2}$	94	95	M1	5.151e-09	7.864e-06	1.331e+00

Continued. . .

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	94	95	E2	1.828e-19	2.791e-16	1.243e-03
Mg VIII							
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	3302	3309	M1	1.783e-07	3.258e-01	1.332e+00
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	3302	3309	E2	4.791e-13	8.752e-07	7.870e-02
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	129890	129904	E1	1.334e-05	7.509e+04	3.381e-05
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	131030	131049	E1	6.752e-07	1.934e+03	1.696e-06
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	131030	131049	M2	2.698e-11	7.727e-02	5.363e+00
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	132710	132718	M2	1.642e-11	3.215e-02	3.142e+00
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	232274	232395	M2	1.675e-10	1.005e+00	5.969e+00
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	232307	232436	E1	1.573e-01	1.417e+09	2.228e-01
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	232307	232436	M2	5.100e-12	4.594e-02	1.817e-01
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	298282	298551	E1	1.075e-01	3.197e+09	1.186e-01
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	318721	318937	E1	2.429e-01	8.241e+09	2.507e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	320723	320938	E1	1.312e-01	2.253e+09	1.345e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	320723	320938	M2	2.780e-11	4.775e-01	3.762e-01
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	126588	126595	E1	1.174e-05	6.274e+04	3.053e-05
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	126588	126595	M2	3.686e-12	1.970e-02	8.129e-01
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	127728	127740	E1	5.980e-06	1.627e+04	1.541e-05
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	127728	127740	M2	1.496e-12	4.071e-03	3.211e-01
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	129408	129408	E1	3.253e-05	6.057e+04	8.276e-05
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	129408	129408	M2	4.963e-11	9.240e-02	1.024e+01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	228972	229085	E1	2.704e-01	1.577e+09	3.885e-01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	228972	229085	M2	1.695e-10	9.892e-01	6.309e+00
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	229005	229126	E1	2.645e-02	2.316e+08	3.801e-02
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	229005	229126	M2	2.423e-11	2.121e-01	9.011e-01
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	294980	295241	E1	1.347e-01	3.915e+09	1.502e-01
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	294980	295241	M2	5.661e-11	1.646e+00	9.840e-01
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	315419	315627	E1	1.608e-01	5.344e+09	1.678e-01
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	315419	315627	M2	3.512e-11	1.167e+00	4.998e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	317421	317628	E1	6.805e-01	1.145e+10	7.054e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	317421	317628	M2	1.009e-10	1.697e+00	1.409e+00
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	1140	1144	M1	1.542e-07	3.371e-02	3.330e+00
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	1140	1144	E2	2.423e-15	5.297e-10	9.614e-03
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	2820	2813	E2	3.229e-13	2.842e-07	8.632e-02
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	102384	102490	E2	1.052e-12	1.228e-03	5.819e-06
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	102417	102531	M1	4.916e-10	8.618e-01	1.186e-04
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	102417	102531	E2	4.432e-12	7.770e-03	2.449e-05
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	190833	191033	M1	1.623e-10	9.878e-01	2.101e-05
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	190833	191033	E2	1.709e-12	1.040e-02	1.460e-06
$2p^3 \ ^4S_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	283720	283767	E1	1.567e-01	2.104e+09	1.818e-01
$2p^3 \ ^4S_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	283720	283767	M2	1.649e-11	2.214e-01	3.228e-01
$2p^3 \ ^2D_{5/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	335855	335975	M2	3.808e-11	4.778e-01	4.492e-01
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	335928	336062	E1	2.071e-06	3.901e+04	2.029e-06
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	335928	336062	M2	3.200e-10	6.026e+00	3.772e+00
$2p^3 \ ^2P_{1/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	394762	395021	E1	1.353e-05	7.039e+05	1.127e-05
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	394951	395210	E1	3.341e-07	8.701e+03	2.783e-07
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	394951	395210	M2	2.118e-11	5.517e-01	1.535e-01
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	1680	1668	M1	2.428e-07	7.517e-02	3.598e+00
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	1680	1668	E2	9.410e-14	2.913e-08	1.206e-01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	101244	101345	M1	1.772e-09	2.023e+00	4.324e-04
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	101244	101345	E2	8.384e-12	9.573e-03	4.797e-05
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	167252	167501	M1	5.297e-09	4.956e+01	7.820e-04
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	167252	167501	E2	2.103e-13	1.967e-03	2.665e-07
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	187691	187887	M1	2.840e-11	3.344e-01	3.738e-06
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	187691	187887	E2	3.679e-12	4.331e-02	3.303e-06
$2p^3 \ ^4S_{3/2}^o$	$2s^2 2p^2 \ ^4P_{3/2}$	282580	282622	E1	3.117e-01	4.152e+09	3.631e-01
$2p^3 \ ^4S_{3/2}^o$	$2s^2 2p^2 \ ^4P_{3/2}$	282580	282622	M2	9.966e-11	1.327e+00	1.975e+00
$2p^3 \ ^2D_{5/2}^o$	$2s^2 2p^2 \ ^4P_{3/2}$	334715	334830	E1	6.222e-06	7.754e+04	6.117e-06
$2p^3 \ ^2D_{5/2}^o$	$2s^2 2p^2 \ ^4P_{3/2}$	334715	334830	M2	2.157e-10	2.688e+00	2.571e+00

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	334788	334917	E1	4.782e-05	8.944e+05	4.700e-05
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	334788	334917	M2	3.035e-10	5.677e+00	3.614e+00
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	393622	393876	E1	2.271e-06	1.175e+05	1.898e-06
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	393622	393876	M2	1.747e-10	9.039e+00	1.279e+00
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	393811	394065	E1	5.821e-05	1.507e+06	4.863e-05
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	393811	394065	M2	1.450e-11	3.755e-01	1.060e-01
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	99597	99717	M1	7.532e-10	1.249e+00	1.868e-04
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	99597	99717	E2	7.525e-12	1.248e-02	4.520e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	165572	165832	E2	4.958e-12	4.547e-02	6.474e-06
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	186011	186219	E2	5.123e-13	5.925e-03	4.725e-07
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	188013	188219	M1	4.478e-10	2.645e+00	5.883e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	188013	188219	E2	6.618e-13	3.910e-03	5.912e-07
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	280900	280953	E1	4.641e-01	6.108e+09	5.438e-01
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	280900	280953	M2	1.852e-10	2.437e+00	3.735e+00
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	333035	333161	E1	2.111e-04	2.605e+06	2.086e-04
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	333035	333161	M2	3.287e-10	4.057e+00	3.977e+00
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	333108	333248	E1	6.900e-06	1.278e+05	6.817e-06
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	333108	333248	M2	6.369e-11	1.180e+00	7.700e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{5/2}	391942	392207	M2	1.008e-10	5.173e+00	7.476e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	392131	392396	E1	2.328e-05	5.978e+05	1.953e-05
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	392131	392396	M2	3.621e-10	9.297e+00	2.681e+00
2s2p ² 2D _{3/2}	2s2p ² 2D _{5/2}	33	40	M1	3.968e-09	1.108e-06	2.398e+00
2s2p ² 2D _{3/2}	2s2p ² 2D _{5/2}	33	40	E2	8.793e-19	2.455e-16	7.644e-02
2s2p ² 2S _{1/2}	2s2p ² 2D _{5/2}	66008	66155	E2	1.048e-08	1.529e+01	2.155e-01
2s2p ² 2P _{1/2}	2s2p ² 2D _{5/2}	86447	86542	E2	5.116e-11	1.278e-01	4.701e-04
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	88449	88543	M1	2.434e-09	3.182e+00	6.797e-04
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	88449	88543	E2	1.310e-10	1.713e-01	1.124e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	181336	181276	E1	8.805e-07	4.825e+03	1.599e-06
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	181336	181276	M2	3.582e-15	1.963e-05	2.690e-04
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	233471	233485	E1	5.177e-01	3.138e+09	7.300e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	233471	233485	M2	1.747e-10	1.059e+00	6.142e+00
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	233544	233571	E1	4.574e-02	4.161e+08	6.446e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	233544	233571	M2	1.183e-10	1.076e+00	4.154e+00
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{5/2}	292378	292531	M2	7.160e-11	2.043e+00	1.280e+00
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	292567	292720	E1	3.474e-01	4.963e+09	3.907e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	292567	292720	M2	7.381e-11	1.055e+00	1.317e+00
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	65975	66114	M1	6.592e-12	9.611e-03	2.466e-06
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	65975	66114	E2	6.850e-09	9.986e+00	1.412e-01
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	86414	86501	M1	1.318e-09	3.289e+00	3.768e-04
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	86414	86501	E2	3.167e-10	7.904e-01	2.914e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	181303	181235	E1	1.904e-07	1.043e+03	3.459e-07
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	181303	181235	M2	2.593e-14	1.420e-04	1.949e-03
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	233438	233444	E1	4.194e-02	2.541e+08	5.914e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	233438	233444	M2	1.222e-10	7.404e-01	4.297e+00
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	233511	233530	E1	3.197e-01	2.908e+09	4.507e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	233511	233530	M2	2.735e-11	2.487e-01	9.605e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	292345	292490	E1	2.038e-01	5.815e+09	2.294e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	292345	292490	M2	3.043e-12	8.682e-02	5.440e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	292534	292679	E1	4.547e-02	6.496e+08	5.115e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	292534	292679	M2	1.415e-11	2.022e-01	2.525e-01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	22441	22387	M1	9.687e-09	8.096e-01	1.070e-02
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	22441	22387	E2	6.130e-13	5.123e-05	3.254e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	115328	115120	E1	1.084e-06	2.395e+03	3.099e-06
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	115328	115120	M2	1.254e-13	2.771e-04	3.677e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2S _{1/2}	167463	167329	M2	2.628e-13	8.181e-04	2.510e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	167536	167415	E1	2.882e-03	1.347e+07	5.668e-03
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	167536	167415	M2	9.111e-15	4.259e-05	8.687e-04
2p ³ 2P _{1/2} ^o	2s2p ² 2S _{1/2}	226370	226375	E1	4.199e-02	7.176e+08	6.106e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	226559	226564	E1	1.348e-01	1.154e+09	1.959e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	226559	226564	M2	1.383e-10	1.184e+00	5.319e+00
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	2002	2000	M1	1.070e-07	7.141e-02	1.322e+00
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	2002	2000	E2	1.015e-13	6.774e-08	7.544e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	94889	94734	E1	1.242e-05	1.858e+04	4.314e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	94889	94734	M2	5.668e-12	8.482e-03	2.982e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{1/2}$	147024	146942	M2	6.797e-12	1.632e-02	9.584e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	147097	147029	E1	1.902e-01	6.857e+08	4.259e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	147097	147029	M2	1.674e-13	6.035e-04	2.356e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{1/2}$	205931	205988	E1	1.741e-01	2.464e+09	2.783e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	206120	206177	E1	5.314e-02	3.767e+08	8.485e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	206120	206177	M2	2.078e-14	1.473e-04	1.061e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	92887	92733	E1	4.608e-05	6.608e+04	1.636e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	92887	92733	M2	5.224e-12	7.491e-03	2.931e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	145022	144942	E1	3.239e-01	7.565e+08	7.357e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	145022	144942	M2	7.148e-12	1.669e-02	1.050e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	145095	145028	E1	3.100e-02	1.087e+08	7.038e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	145095	145028	M2	9.708e-13	3.405e-03	1.424e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	203929	203987	E1	7.510e-02	1.042e+09	1.212e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	203929	203987	M2	1.485e-12	2.061e-02	7.828e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	204118	204176	E1	4.082e-01	2.838e+09	6.582e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	204118	204176	M2	1.397e-11	9.715e-02	7.345e-01
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	52135	52208	M1	7.049e-12	2.136e-03	3.339e-06
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	52135	52208	E2	3.188e-12	9.661e-04	1.334e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	111042	111254	M1	2.227e-09	9.193e+00	4.950e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	111042	111254	E2	9.606e-15	3.965e-05	4.155e-08
$2p^3 \ ^2D_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	73	86	M1	8.365e-09	1.040e-05	2.396e+00
$2p^3 \ ^2D_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	73	86	E2	5.406e-20	6.722e-17	5.001e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{5/2}^o$	58907	59045	E2	3.633e-09	4.224e+00	1.051e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	59096	59234	M1	9.478e-09	5.546e+00	3.957e-03
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	59096	59234	E2	1.276e-08	7.463e+00	3.655e-01
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	58834	58959	M1	5.232e-09	6.066e+00	2.194e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	58834	58959	E2	5.385e-09	6.243e+00	1.565e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	189	189	M1	1.017e-08	6.063e-05	1.330e+00
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	189	189	E2	1.118e-18	6.665e-15	9.846e-04
Al IX							
$2s^22p \ ^2P_{3/2}^o$	$2s^22p \ ^2P_{1/2}^o$	4890	4899	M1	2.639e-07	1.056e+00	1.332e+00
$2s^22p \ ^2P_{3/2}$	$2s^22p \ ^2P_{1/2}$	4890	4899	E2	1.041e-12	4.166e-06	5.272e-02
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	145270	145228	E1	2.220e-05	1.562e+05	5.032e-05
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	146990	146941	E1	1.100e-06	3.961e+03	2.465e-06
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	146990	146941	M2	3.108e-11	1.119e-01	4.382e+00
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P_{1/2}^o$	149460	149427	M2	1.940e-11	4.816e-02	2.601e+00
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P_{1/2}^o$	259730	259843	M2	1.890e-10	1.418e+00	4.819e+00
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	259760	259870	E1	1.474e-01	1.660e+09	1.868e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	259760	259870	M2	5.713e-12	6.434e-02	1.456e-01
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	332710	332955	E1	1.095e-01	4.047e+09	1.082e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	354080	354295	E1	2.107e-01	8.819e+09	1.958e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	356950	357181	E1	1.185e-01	2.520e+09	1.092e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	356950	357181	M2	3.144e-11	6.688e-01	3.086e-01
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	140380	140329	E1	1.890e-05	1.241e+05	4.433e-05
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	140380	140329	M2	4.060e-12	2.667e-02	6.573e-01
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	142100	142042	E1	9.964e-06	3.352e+04	2.309e-05
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	142100	142042	M2	1.657e-12	5.573e-03	2.586e-01
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	144570	144528	E1	5.415e-05	1.258e+05	1.233e-04
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	144570	144528	M2	5.593e-11	1.299e-01	8.288e+00
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	254840	254944	E1	2.497e-01	1.804e+09	3.225e-01
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	254840	254944	M2	1.907e-10	1.378e+00	5.148e+00
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	254870	254971	E1	2.333e-02	2.529e+08	3.012e-02

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2D _{3/2}	2s ² 2p 2P _{3/2} ^o	254870	254971	M2	2.705e-11	2.933e-01	7.301e-01
2s2p ² 2S _{1/2}	2s ² 2p 2P _{3/2} ^o	327820	328056	E1	1.132e-01	4.063e+09	1.136e-01
2s2p ² 2S _{1/2}	2s ² 2p 2P _{3/2} ^o	327820	328056	M2	6.129e-11	2.200e+00	7.767e-01
2s2p ² 2P _{1/2}	2s ² 2p 2P _{3/2} ^o	349190	349396	E1	1.568e-01	6.384e+09	1.477e-01
2s2p ² 2P _{1/2}	2s ² 2p 2P _{3/2} ^o	349190	349396	M2	4.346e-11	1.770e+00	4.558e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P _{3/2} ^o	352060	352282	E1	6.231e-01	1.290e+10	5.823e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P _{3/2} ^o	352060	352282	M2	1.154e-10	2.388e+00	1.181e+00
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	1720	1713	M1	2.306e-07	1.129e-01	3.329e+00
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	1720	1713	E2	5.389e-15	2.637e-09	6.385e-03
2s2p ² 4P _{5/2}	2s2p ² 4P _{1/2}	4190	4198	E2	7.121e-13	1.396e-06	5.730e-02
2s2p ² 2D _{5/2}	2s2p ² 4P _{1/2}	114460	114614	E2	1.718e-12	2.509e-03	6.796e-06
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	114490	114641	M1	9.701e-10	2.126e+00	2.093e-04
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	114490	114641	E2	7.402e-12	1.622e-02	2.926e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	211680	211952	M1	3.196e-10	2.394e+00	3.729e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	211680	211952	E2	2.698e-12	2.021e-02	1.687e-06
2p ³ 4S _{3/2}	2s2p ² 4P _{1/2}	315660	315728	E1	1.439e-01	2.392e+09	1.500e-01
2p ³ 4S _{3/2}	2s2p ² 4P _{1/2}	315660	315728	M2	1.914e-11	3.181e-01	2.720e-01
2p ³ 2D _{5/2}	2s2p ² 4P _{1/2}	374810	374975	M2	4.257e-11	6.654e-01	3.612e-01
2p ³ 2D _{3/2}	2s2p ² 4P _{1/2}	374870	375033	E1	3.125e-06	7.330e+04	2.743e-06
2p ³ 2D _{3/2}	2s2p ² 4P _{1/2}	374870	375033	M2	3.608e-10	8.464e+00	3.061e+00
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{1/2}	439910	440213	E1	2.142e-05	1.385e+06	1.602e-05
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	440270	440566	E1	4.925e-07	1.594e+04	3.680e-07
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	440270	440566	M2	2.180e-11	7.054e-01	1.140e-01
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	2470	2485	M1	3.616e-07	2.484e-01	3.598e+00
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	2470	2485	E2	2.062e-13	1.416e-07	7.999e-02
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	112740	112901	M1	3.546e-09	5.024e+00	7.766e-04
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	112740	112901	E2	1.382e-11	1.958e-02	5.720e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	185720	186013	M1	1.035e-08	1.195e+02	1.376e-03
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	185720	186013	E2	2.726e-13	3.145e-03	2.522e-07
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	207090	207353	M1	1.233e-10	1.768e+00	1.471e-05
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	207090	207353	E2	5.902e-12	8.462e-02	3.942e-06
2p ³ 4S _{3/2}	2s2p ² 4P _{3/2}	313940	314015	E1	2.857e-01	4.698e+09	2.995e-01
2p ³ 4S _{3/2}	2s2p ² 4P _{3/2}	313940	314015	M2	1.131e-10	1.860e+00	1.634e+00
2p ³ 2D _{5/2}	2s2p ² 4P _{3/2}	373090	373262	E1	1.022e-05	1.583e+05	9.016e-06
2p ³ 2D _{5/2}	2s2p ² 4P _{3/2}	373090	373262	M2	2.421e-10	3.749e+00	2.082e+00
2p ³ 2D _{3/2}	2s2p ² 4P _{3/2}	373150	373320	E1	8.271e-05	1.922e+06	7.294e-05
2p ³ 2D _{3/2}	2s2p ² 4P _{3/2}	373150	373320	M2	3.378e-10	7.850e+00	2.905e+00
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	438190	438500	E1	3.617e-06	2.320e+05	2.716e-06
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	438190	438500	M2	1.975e-10	1.266e+01	1.048e+00
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	438550	438853	E1	9.019e-05	2.897e+06	6.766e-05
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	438550	438853	M2	1.785e-11	5.732e-01	9.448e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	110300	110443	M1	1.506e-09	3.064e+00	3.373e-04
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	110300	110443	E2	1.201e-11	2.442e-02	5.308e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	183250	183528	E2	8.165e-12	9.172e-02	7.867e-06
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	204620	204867	E2	1.198e-12	1.677e-02	8.299e-07
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	207490	207754	M1	8.682e-10	6.249e+00	1.033e-04
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	207490	207754	E2	1.326e-12	9.547e-03	8.810e-07
2p ³ 4S _{3/2}	2s2p ² 4P _{5/2}	311470	311530	E1	4.244e-01	6.869e+09	4.485e-01
2p ³ 4S _{3/2}	2s2p ² 4P _{5/2}	311470	311530	M2	2.064e-10	3.340e+00	3.054e+00
2p ³ 2D _{5/2}	2s2p ² 4P _{5/2}	370620	370777	E1	3.447e-04	5.268e+06	3.061e-04
2p ³ 2D _{5/2}	2s2p ² 4P _{5/2}	370620	370777	M2	3.710e-10	5.670e+00	3.256e+00
2p ³ 2D _{3/2}	2s2p ² 4P _{5/2}	370680	370835	E1	9.577e-06	2.196e+05	8.502e-06
2p ³ 2D _{3/2}	2s2p ² 4P _{5/2}	370680	370835	M2	6.523e-11	1.496e+00	5.723e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{5/2}	435720	436014	M2	1.150e-10	7.289e+00	6.204e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	436080	436367	E1	3.694e-05	1.173e+06	2.787e-05
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	436080	436367	M2	4.155e-10	1.319e+01	2.237e+00
2s2p ² 2D _{3/2}	2s2p ² 2D _{5/2}	30	27	M1	2.617e-09	3.182e-07	2.397e+00
2s2p ² 2D _{3/2}	2s2p ² 2D _{5/2}	30	27	E2	1.681e-19	2.044e-17	5.085e-02
2s2p ² 2S _{1/2}	2s2p ² 2D _{5/2}	72980	73112	E2	9.368e-09	1.670e+01	1.428e-01
2s2p ² 2P _{1/2}	2s2p ² 2D _{5/2}	94350	94451	E2	1.536e-10	4.570e-01	1.086e-03

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	97220	97338	M1	4.855e-09	7.671e+00	1.233e-03
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	97220	97338	E2	9.200e-11	1.454e-01	5.941e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	201200	201114	E1	1.314e-06	8.863e+03	2.151e-06
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	201200	201114	M2	7.446e-15	5.022e-05	4.095e-04
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	260350	260361	E1	4.791e-01	3.611e+09	6.058e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	260350	260361	M2	1.980e-10	1.492e+00	5.019e+00
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	260410	260419	E1	4.521e-02	5.113e+08	5.716e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	260410	260419	M2	1.312e-10	1.483e+00	3.323e+00
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{5/2}	325450	325598	M2	8.091e-11	2.861e+00	1.049e+00
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	325810	325951	E1	3.144e-01	5.570e+09	3.175e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	325810	325951	M2	8.974e-11	1.590e+00	1.159e+00
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	72950	73085	M1	2.705e-11	4.819e-02	9.153e-06
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	72950	73085	E2	6.100e-09	1.087e+01	9.306e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	94320	94424	M1	2.582e-09	7.678e+00	6.762e-04
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	94320	94424	E2	3.991e-10	1.187e+00	2.823e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	201170	201087	E1	6.020e-07	4.059e+03	9.856e-07
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	201170	201087	M2	5.109e-14	3.445e-04	2.811e-03
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	260320	260334	E1	4.047e-02	3.049e+08	5.117e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	260320	260334	M2	1.374e-10	1.035e+00	3.485e+00
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	260380	260392	E1	2.918e-01	3.299e+09	3.689e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	260380	260392	M2	3.013e-11	3.407e-01	7.635e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	325420	325571	E1	1.881e-01	6.649e+09	1.902e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	325420	325571	M2	3.331e-12	1.177e-01	4.318e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	325780	325924	E1	4.341e-02	7.690e+08	4.385e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	325780	325924	M2	1.664e-11	2.947e-01	2.150e-01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	24240	24226	M1	2.111e-08	2.066e+00	2.155e-02
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	24240	24226	E2	1.106e-12	1.083e-04	4.635e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	128220	128001	E1	2.356e-06	6.436e+03	6.058e-06
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	128220	128001	M2	2.739e-13	7.483e-04	5.843e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2S _{1/2}	187370	187249	M2	4.361e-13	1.700e-03	2.972e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	187430	187306	E1	5.335e-03	3.121e+07	9.376e-03
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	187430	187306	M2	4.760e-14	2.785e-04	3.241e-03
2p ³ 2P _{1/2} ^o	2s2p ² 2S _{1/2}	252470	252486	E1	3.306e-02	7.030e+08	4.311e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	252830	252839	E1	1.308e-01	1.394e+09	1.703e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	252830	252839	M2	1.552e-10	1.655e+00	4.296e+00
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	2870	2886	M1	1.530e-07	2.126e-01	1.311e+00
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	2870	2886	E2	2.047e-13	2.844e-07	5.070e-02
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	106850	106662	E1	2.072e-05	3.932e+04	6.397e-05
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	106850	106662	M2	6.485e-12	1.230e-02	2.391e+00
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{1/2}	166000	165909	M2	7.799e-12	2.387e-02	7.640e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	166060	165967	E1	1.795e-01	8.243e+08	3.560e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	166060	165967	M2	1.907e-13	8.758e-04	1.866e-02
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{1/2}	231100	231146	E1	1.675e-01	2.985e+09	2.386e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	231460	231499	E1	4.095e-02	3.660e+08	5.823e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	231460	231499	M2	8.777e-14	7.843e-04	3.165e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	103980	103775	E1	7.473e-05	1.342e+05	2.371e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	103980	103775	M2	5.879e-12	1.056e-02	2.353e+00
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{3/2}	163130	163022	E1	3.030e-01	8.953e+08	6.119e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{3/2}	163130	163022	M2	7.872e-12	2.326e-02	8.129e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{3/2}	163190	163080	E1	2.747e-02	1.218e+08	5.546e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{3/2}	163190	163080	M2	1.158e-12	5.135e-03	1.194e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{3/2}	228230	228260	E1	6.856e-02	1.191e+09	9.888e-02
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{3/2}	228230	228260	M2	1.749e-12	3.040e-02	6.580e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{3/2}	228590	228613	E1	3.836e-01	3.343e+09	5.524e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{3/2}	228590	228613	M2	1.564e-11	1.363e-01	5.855e-01
2p ³ 2D _{5/2} ^o	2p ³ 4S _{3/2} ^o	59150	59247	M1	2.013e-11	7.857e-03	8.403e-06
2p ³ 2D _{5/2} ^o	2p ³ 4S _{3/2} ^o	59150	59247	E2	5.475e-12	2.137e-03	1.568e-04
2p ³ 2P _{1/2} ^o	2p ³ 4S _{3/2} ^o	124250	124484	M1	4.393e-09	2.271e+01	8.728e-04

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2P^o_{1/2}$	$2p^3 \ ^4S^o_{3/2}$	124250	124484	E2	1.313e-15	6.789e-06	4.055e-09
$2p^3 \ ^2D^o_{3/2}$	$2p^3 \ ^2D^o_{5/2}$	60	57	M1	5.608e-09	3.142e-06	2.393e+00
$2p^3 \ ^2D^o_{3/2}$	$2p^3 \ ^2D^o_{5/2}$	60	57	E2	2.092e-20	1.172e-17	6.399e-04
$2p^3 \ ^2P^o_{1/2}$	$2p^3 \ ^2D^o_{5/2}$	65100	65237	E2	3.268e-09	4.639e+00	7.011e-02
$2p^3 \ ^2P^o_{3/2}$	$2p^3 \ ^2D^o_{5/2}$	65460	65590	M1	1.885e-08	1.353e+01	7.109e-03
$2p^3 \ ^2P^o_{3/2}$	$2p^3 \ ^2D^o_{5/2}$	65460	65590	E2	1.152e-08	8.266e+00	2.432e-01
$2p^3 \ ^2P^o_{1/2}$	$2p^3 \ ^2D^o_{3/2}$	65040	65179	M1	1.038e-08	1.471e+01	3.938e-03
$2p^3 \ ^2P^o_{1/2}$	$2p^3 \ ^2D^o_{3/2}$	65040	65179	E2	4.840e-09	6.858e+00	1.041e-01
$2p^3 \ ^2P^o_{3/2}$	$2p^3 \ ^2P^o_{1/2}$	360	352	M1	1.895e-08	3.935e-04	1.327e+00
$2p^3 \ ^2P^o_{3/2}$	$2p^3 \ ^2P^o_{1/2}$	360	352	E2	6.344e-18	1.318e-13	8.596e-04
Si X							
$2s^2 2p \ ^2P^o_{3/2}$	$2s^2 2p \ ^2P^o_{1/2}$	6991	7000	M1	3.771e-07	3.082e+00	1.332e+00
$2s^2 2p \ ^2P^o_{3/2}$	$2s^2 2p \ ^2P^o_{1/2}$	6991	7000	E2	2.111e-12	1.725e-05	3.665e-02
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P^o_{1/2}$	161010	160953	E1	3.536e-05	3.055e+05	7.232e-05
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P^o_{1/2}$	163490	163431	E1	1.716e-06	7.645e+03	3.458e-06
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P^o_{1/2}$	163490	163431	M2	3.559e-11	1.585e-01	3.648e+00
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P^o_{1/2}$	167060	166996	M2	2.290e-11	7.100e-02	2.200e+00
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P^o_{1/2}$	287850	287997	E1	1.394e-01	1.928e+09	1.594e-01
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P^o_{1/2}$	287850	287997	M2	6.276e-12	8.681e-02	1.176e-01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P^o_{1/2}$	287880	288011	M2	2.113e-10	1.949e+00	3.957e+00
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P^o_{1/2}$	367670	367943	E1	1.143e-01	5.162e+09	1.023e-01
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P^o_{1/2}$	390040	390289	E1	1.806e-01	9.176e+09	1.524e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P^o_{1/2}$	394030	394266	E1	1.077e-01	2.791e+09	8.990e-02
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P^o_{1/2}$	394030	394266	M2	3.525e-11	9.138e-01	2.573e-01
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	154019	153952	E1	2.901e-05	2.293e+05	6.204e-05
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	154019	153952	M2	4.408e-12	3.484e-02	5.404e-01
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	156499	156431	E1	1.577e-05	6.436e+04	3.319e-05
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	156499	156431	M2	1.810e-12	7.385e-03	2.115e-01
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	160069	159996	E1	8.642e-05	2.459e+05	1.778e-04
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	160069	159996	M2	6.239e-11	1.776e-01	6.815e+00
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	280859	280996	E1	2.047e-02	2.695e+08	2.398e-02
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	280859	280996	M2	2.977e-11	3.919e-01	6.002e-01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	280889	281010	E1	2.320e-01	2.037e+09	2.718e-01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	280889	281010	M2	2.133e-10	1.873e+00	4.301e+00
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	360679	360942	E1	9.287e-02	4.035e+09	8.470e-02
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	360679	360942	M2	6.426e-11	2.792e+00	6.114e-01
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	383049	383288	E1	1.559e-01	7.640e+09	1.339e-01
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	383049	383288	M2	5.421e-11	2.656e+00	4.307e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	387039	387265	E1	5.759e-01	1.440e+10	4.896e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P^o_{3/2}$	387039	387265	M2	1.307e-10	3.269e+00	1.007e+00
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	2480	2478	M1	3.335e-07	3.416e-01	3.327e+00
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	2480	2478	E2	1.126e-14	1.153e-08	4.405e-03
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	6050	6043	E2	1.465e-12	5.948e-06	3.952e-02
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	126840	127044	M1	1.795e-09	4.831e+00	3.494e-04
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	126840	127044	E2	1.185e-11	3.188e-02	3.441e-05
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	126870	127058	E2	2.673e-12	4.797e-03	7.760e-06
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	233020	233313	M1	5.899e-10	5.354e+00	6.252e-05
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	233020	233313	E2	4.075e-12	3.699e-02	1.911e-06
$2p^3 \ ^4S^o_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	348320	348378	E1	1.332e-01	2.697e+09	1.259e-01
$2p^3 \ ^4S^o_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	348320	348378	M2	2.216e-11	4.486e-01	2.345e-01
$2p^3 \ ^2D^o_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	414420	414640	E1	4.342e-06	1.245e+05	3.448e-06
$2p^3 \ ^2D^o_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	414420	414640	M2	4.043e-10	1.159e+01	2.537e+00
$2p^3 \ ^2D^o_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	414440	414667	M2	4.722e-11	9.027e-01	2.963e-01
$2p^3 \ ^2P^o_{1/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	485750	486078	E1	3.238e-05	2.552e+06	2.193e-05
$2p^3 \ ^2P^o_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	486380	486706	E1	7.388e-07	2.918e+04	4.997e-07
$2p^3 \ ^2P^o_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	486380	486706	M2	2.168e-11	8.565e-01	8.414e-02
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	3570	3565	M1	5.186e-07	7.329e-01	3.597e+00
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	3570	3565	E2	4.193e-13	5.926e-07	5.510e-02

Continued. . .

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	124390	124579	M1	6.705e-09	1.157e+01	1.331e-03
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	124390	124579	E2	2.184e-11	3.769e-02	6.729e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	204180	204511	M1	1.892e-08	2.640e+02	2.288e-03
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	204180	204511	E2	2.909e-13	4.058e-03	2.025e-07
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	226550	226857	M1	4.560e-10	7.826e+00	4.970e-05
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	226550	226857	E2	9.131e-12	1.567e-01	4.658e-06
2p ³ 4S _{3/2}	2s2p ² 4P _{3/2}	345840	345900	E1	2.640e-01	5.268e+09	2.513e-01
2p ³ 4S _{3/2}	2s2p ² 4P _{3/2}	345840	345900	M2	1.272e-10	2.538e+00	1.375e+00
2p ³ 2D _{3/2}	2s2p ² 4P _{3/2}	411940	412161	E1	1.384e-04	3.921e+06	1.106e-04
2p ³ 2D _{3/2}	2s2p ² 4P _{3/2}	411940	412161	M2	3.727e-10	1.056e+01	2.381e+00
2p ³ 2D _{5/2}	2s2p ² 4P _{3/2}	411960	412189	E1	1.599e-05	3.021e+05	1.278e-05
2p ³ 2D _{5/2}	2s2p ² 4P _{3/2}	411960	412189	M2	2.697e-10	5.095e+00	1.723e+00
2p ³ 2P _{1/2}	2s2p ² 4P _{3/2}	483270	483600	E1	5.517e-06	4.303e+05	3.756e-06
2p ³ 2P _{1/2}	2s2p ² 4P _{3/2}	483270	483600	M2	2.213e-10	1.726e+01	8.754e-01
2p ³ 2P _{3/2}	2s2p ² 4P _{3/2}	483900	484228	E1	1.339e-04	5.236e+06	9.104e-05
2p ³ 2P _{3/2}	2s2p ² 4P _{3/2}	483900	484228	M2	2.202e-11	8.610e-01	8.676e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	120790	121000	M1	2.854e-09	6.968e+00	5.833e-04
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	120790	121000	E2	1.832e-11	4.473e-02	6.159e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	200610	200946	E2	1.270e-11	1.710e-01	9.322e-06
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	222980	223292	E2	2.669e-12	4.439e-02	1.428e-06
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	226970	227269	M1	1.568e-09	1.350e+01	1.706e-04
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	226970	227269	E2	2.476e-12	2.133e-02	1.256e-06
2p ³ 4S _{3/2}	2s2p ² 4P _{5/2}	342270	342334	E1	3.911e-01	7.644e+09	3.762e-01
2p ³ 4S _{3/2}	2s2p ² 4P _{5/2}	342270	342334	M2	2.273e-10	4.442e+00	2.535e+00
2p ³ 2D _{3/2}	2s2p ² 4P _{5/2}	408370	408596	E1	1.195e-05	3.328e+05	9.632e-06
2p ³ 2D _{3/2}	2s2p ² 4P _{5/2}	408370	408596	M2	6.465e-11	1.800e+00	4.240e-01
2p ³ 2D _{5/2}	2s2p ² 4P _{5/2}	408390	408623	E1	5.399e-04	1.002e+07	4.350e-04
2p ³ 2D _{5/2}	2s2p ² 4P _{5/2}	408390	408623	M2	4.162e-10	7.725e+00	2.729e+00
2p ³ 2P _{1/2}	2s2p ² 4P _{5/2}	479700	480034	M2	1.302e-10	1.000e+01	5.264e-01
2p ³ 2P _{3/2}	2s2p ² 4P _{5/2}	480330	480662	E1	5.634e-05	2.171e+06	3.859e-05
2p ³ 2P _{3/2}	2s2p ² 4P _{5/2}	480330	480662	M2	4.734e-10	1.824e+01	1.907e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	30	14	M1	1.362e-09	2.990e-08	2.396e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	30	14	E2	1.638e-20	3.597e-19	3.514e-02
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	79820	79946	M1	9.694e-11	2.066e-01	2.999e-05
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	79820	79946	E2	5.431e-09	1.158e+01	6.330e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	102190	102292	M1	4.722e-09	1.648e+01	1.141e-03
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	102190	102292	E2	5.257e-10	1.835e+00	2.925e-03
2p ³ 4S _{3/2}	2s2p ² 2D _{3/2}	221480	221334	E1	1.672e-06	1.366e+04	2.487e-06
2p ³ 4S _{3/2}	2s2p ² 2D _{3/2}	221480	221334	M2	9.451e-14	7.721e-04	3.899e-03
2p ³ 2D _{3/2}	2s2p ² 2D _{3/2}	287580	287596	E1	2.670e-01	3.683e+09	3.057e-01
2p ³ 2D _{3/2}	2s2p ² 2D _{3/2}	287580	287596	M2	3.299e-11	4.551e-01	6.205e-01
2p ³ 2D _{5/2}	2s2p ² 2D _{3/2}	287600	287623	E1	3.957e-02	3.639e+08	4.529e-02
2p ³ 2D _{5/2}	2s2p ² 2D _{3/2}	287600	287623	M2	1.534e-10	1.411e+00	2.884e+00
2p ³ 2P _{1/2}	2s2p ² 2D _{3/2}	358910	359034	E1	1.752e-01	7.532e+09	1.606e-01
2p ³ 2P _{1/2}	2s2p ² 2D _{3/2}	358910	359034	M2	3.582e-12	1.540e-01	3.463e-02
2p ³ 2P _{3/2}	2s2p ² 2D _{3/2}	359540	359662	E1	4.203e-02	9.067e+08	3.847e-02
2p ³ 2P _{3/2}	2s2p ² 2D _{3/2}	359540	359662	M2	1.946e-11	4.197e-01	1.871e-01
2s2p ² 2S _{1/2}	2s2p ² 2D _{5/2}	79790	79932	E2	8.368e-09	1.783e+01	9.759e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{5/2}	102160	102278	E2	3.350e-10	1.169e+00	1.865e-03
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	106150	106255	M1	9.101e-09	1.713e+01	2.118e-03
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	106150	106255	E2	6.288e-11	1.184e-01	3.122e-04
2p ³ 4S _{3/2}	2s2p ² 2D _{5/2}	221450	221320	E1	1.957e-06	1.599e+04	2.912e-06
2p ³ 4S _{3/2}	2s2p ² 2D _{5/2}	221450	221320	M2	1.477e-14	1.207e-04	6.097e-04
2p ³ 2D _{3/2}	2s2p ² 2D _{5/2}	287550	287582	E1	4.538e-02	6.259e+08	5.195e-02
2p ³ 2D _{3/2}	2s2p ² 2D _{5/2}	287550	287582	M2	1.437e-10	1.982e+00	2.703e+00
2p ³ 2D _{5/2}	2s2p ² 2D _{5/2}	287570	287609	E1	4.460e-01	4.101e+09	5.105e-01
2p ³ 2D _{5/2}	2s2p ² 2D _{5/2}	287570	287609	M2	2.214e-10	2.036e+00	4.163e+00
2p ³ 2P _{1/2}	2s2p ² 2D _{5/2}	358880	359020	M2	9.028e-11	3.881e+00	8.728e-01
2p ³ 2P _{3/2}	2s2p ² 2D _{5/2}	359510	359648	E1	2.860e-01	6.169e+09	2.618e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	359510	359648	M2	1.089e-10	2.350e+00	1.048e+00
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	26360	26322	M1	4.326e-08	4.998e+00	4.064e-02
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	26360	26322	E2	1.952e-12	2.255e-04	6.373e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	141660	141388	E1	5.121e-06	1.707e+04	1.192e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	141660	141388	M2	5.622e-13	1.874e-03	8.899e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	207760	207650	E1	9.331e-03	6.709e+07	1.479e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	207760	207650	M2	1.371e-13	9.856e-04	6.849e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2S_{1/2}$	207780	207677	M2	7.479e-13	3.586e-03	3.735e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2S_{1/2}$	279090	279088	E1	2.436e-02	6.327e+08	2.873e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	279720	279716	E1	1.278e-01	1.667e+09	1.504e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	279720	279716	M2	1.720e-10	2.245e+00	3.517e+00
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	3990	3977	M1	2.076e-07	5.476e-01	1.291e+00
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	3990	3977	E2	3.717e-13	9.803e-07	3.519e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	119290	119042	E1	3.318e-05	7.840e+04	9.175e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	119290	119042	M2	7.309e-12	1.727e-02	1.938e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	185390	185304	E1	1.687e-01	9.658e+08	2.997e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	185390	185304	M2	1.989e-13	1.139e-03	1.398e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{1/2}$	185410	185331	M2	8.774e-12	3.350e-02	6.166e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{1/2}$	256720	256742	E1	1.627e-01	3.577e+09	2.087e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	257350	257370	E1	2.932e-02	3.239e+08	3.751e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	257350	257370	M2	8.646e-13	9.550e-03	2.269e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	115300	115065	E1	1.159e-04	2.559e+05	3.316e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	115300	115065	M2	6.550e-12	1.446e-02	1.923e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	181400	181327	E1	2.408e-02	1.320e+08	4.371e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	181400	181327	M2	1.367e-12	7.496e-03	1.026e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	181420	181354	E1	2.842e-01	1.039e+09	5.158e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	181420	181354	M2	8.548e-12	3.125e-02	6.411e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	252730	252765	E1	6.268e-02	1.336e+09	8.164e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	252730	252765	M2	2.021e-12	4.307e-02	5.599e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	253360	253393	E1	3.630e-01	3.887e+09	4.716e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	253360	253393	M2	1.750e-11	1.874e-01	4.812e-01
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	66120	66288	M1	5.497e-11	2.685e-02	2.051e-05
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	66120	66288	E2	8.918e-12	4.357e-03	1.823e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	137430	137700	M1	8.168e-09	5.165e+01	1.467e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	137430	137700	E2	5.983e-15	3.784e-05	1.365e-08
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	20	27	M1	2.631e-09	2.173e-07	2.387e+00
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	20	27	E2	2.653e-21	2.191e-19	7.807e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	71330	71438	M1	1.930e-08	3.285e+01	6.681e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	71330	71438	E2	4.398e-09	7.485e+00	7.184e-02
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{5/2}^o$	71310	71411	E2	2.969e-09	5.050e+00	4.856e-02
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	71940	72038	M1	3.519e-08	3.045e+01	1.208e-02
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	71940	72038	E2	1.053e-08	9.117e+00	1.678e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	630	627	M1	3.361e-08	2.208e-03	1.324e+00
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	630	627	E2	3.330e-17	2.188e-12	8.017e-04
P XI							
$2s^22p \ ^2P_{3/2}^o$	$2s^22p \ ^2P_{1/2}^o$	9699	9713	M1	5.231e-07	8.232e+00	1.332e+00
$2s^22p \ ^2P_{3/2}^o$	$2s^22p \ ^2P_{1/2}^o$	9699	9713	E2	4.043e-12	6.362e-05	2.627e-02
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	177177	177168	E1	5.431e-05	5.686e+05	1.009e-04
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	180672	180657	E1	2.583e-06	1.406e+04	4.708e-06
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	180672	180657	M2	4.064e-11	2.212e-01	3.084e+00
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P_{1/2}^o$	185630	185612	M2	2.708e-11	1.037e-01	1.895e+00
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	316807	316959	E1	1.330e-01	2.227e+09	1.381e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	316807	316959	M2	6.779e-12	1.136e-01	9.524e-02
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P_{1/2}^o$	316905	317060	M2	2.347e-10	2.623e+00	3.294e+00
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	403322	403568	E1	1.218e-01	6.618e+09	9.939e-02
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	426877	427118	E1	1.519e-01	9.245e+09	1.171e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	432160	432369	E1	9.830e-02	3.064e+09	7.485e-02

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2P _{3/2}	2s ² 2p 2P _{1/2} ^o	432160	432369	M2	3.929e-11	1.225e+00	2.174e-01
2s2p ² 4P _{1/2}	2s ² 2p 2P _{3/2} ^o	167478	167455	E1	4.277e-05	4.000e+05	8.409e-05
2s2p ² 4P _{1/2}	2s ² 2p 2P _{3/2} ^o	167478	167455	M2	4.725e-12	4.419e-02	4.501e-01
2s2p ² 4P _{3/2}	2s ² 2p 2P _{3/2} ^o	170973	170943	E1	2.392e-05	1.166e+05	4.607e-05
2s2p ² 4P _{3/2}	2s ² 2p 2P _{3/2} ^o	170973	170943	M2	1.955e-12	9.528e-03	1.751e-01
2s2p ² 4P _{5/2}	2s ² 2p 2P _{3/2} ^o	175931	175899	E1	1.332e-04	4.582e+05	2.493e-04
2s2p ² 4P _{5/2}	2s ² 2p 2P _{3/2} ^o	175931	175899	M2	6.907e-11	2.376e-01	5.678e+00
2s2p ² 2D _{3/2}	2s ² 2p 2P _{3/2} ^o	307108	307245	E1	1.783e-02	2.807e+08	1.911e-02
2s2p ² 2D _{3/2}	2s ² 2p 2P _{3/2} ^o	307108	307245	M2	3.235e-11	5.092e-01	4.990e-01
2s2p ² 2D _{5/2}	2s ² 2p 2P _{3/2} ^o	307206	307346	E1	2.168e-01	2.277e+09	2.322e-01
2s2p ² 2D _{5/2}	2s ² 2p 2P _{3/2} ^o	307206	307346	M2	2.379e-10	2.498e+00	3.666e+00
2s2p ² 2S _{1/2}	2s ² 2p 2P _{3/2} ^o	393623	393854	E1	7.347e-02	3.801e+09	6.141e-02
2s2p ² 2S _{1/2}	2s ² 2p 2P _{3/2} ^o	393623	393854	M2	6.497e-11	3.361e+00	4.757e-01
2s2p ² 2P _{1/2}	2s ² 2p 2P _{3/2} ^o	417178	417404	E1	1.575e-01	9.150e+09	1.242e-01
2s2p ² 2P _{1/2}	2s ² 2p 2P _{3/2} ^o	417178	417404	M2	6.803e-11	3.953e+00	4.185e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P _{3/2} ^o	422461	422655	E1	5.366e-01	1.598e+10	4.179e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P _{3/2} ^o	422461	422655	M2	1.471e-10	4.382e+00	8.717e-01
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	3495	3488	M1	4.690e-07	9.516e-01	3.325e+00
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	3495	3488	E2	2.236e-14	4.536e-08	3.138e-03
2s2p ² 4P _{5/2}	2s2p ² 4P _{1/2}	8453	8443	E2	2.843e-12	2.254e-05	2.813e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	139630	139790	M1	3.146e-09	1.025e+01	5.566e-04
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	139630	139790	E2	1.830e-11	5.964e-02	3.991e-05
2s2p ² 2D _{5/2}	2s2p ² 4P _{1/2}	139728	139891	E2	3.988e-12	8.676e-03	8.675e-06
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	254983	255200	M1	1.030e-09	1.119e+01	9.982e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	254983	255200	E2	5.929e-12	6.439e-02	2.125e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	381796	381835	E1	1.243e-01	3.023e+09	1.072e-01
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	381796	381835	M2	2.570e-11	6.249e-01	2.066e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	454784	454982	E1	5.552e-06	1.917e+05	4.017e-06
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	454784	454982	M2	4.505e-10	1.555e+01	2.140e+00
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{1/2}	454987	455189	M2	5.206e-11	1.199e+00	2.469e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{1/2}	532489	532755	E1	4.702e-05	4.451e+06	2.905e-05
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	533572	533826	E1	1.123e-06	5.337e+04	6.927e-07
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	533572	533826	M2	2.078e-11	9.877e-01	6.112e-02
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	4958	4955	M1	7.205e-07	1.967e+00	3.595e+00
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	4958	4955	E2	8.002e-13	2.185e-06	3.916e-02
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	136233	136403	M1	1.210e-08	2.503e+01	2.194e-03
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	136233	136403	E2	3.335e-11	6.899e-02	7.827e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	222650	222911	M1	3.255e-08	5.395e+02	3.611e-03
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	222650	222911	E2	2.323e-13	3.850e-03	1.249e-07
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	246205	246461	M1	1.474e-09	2.986e+01	1.479e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	246205	246461	E2	1.368e-11	2.771e-01	5.441e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	378301	378347	E1	2.456e-01	5.864e+09	2.137e-01
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	378301	378347	M2	1.420e-10	3.389e+00	1.173e+00
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	451289	451494	E1	2.256e-04	7.669e+06	1.645e-04
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	451289	451494	M2	4.084e-10	1.388e+01	1.985e+00
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	451492	451700	E1	2.402e-05	5.447e+05	1.750e-05
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	451492	451700	M2	2.990e-10	6.781e+00	1.451e+00
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	528994	529267	E1	8.112e-06	7.578e+05	5.046e-06
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	528994	529267	M2	2.464e-10	2.302e+01	7.435e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	530077	530338	E1	1.914e-04	8.977e+06	1.188e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	530077	530338	M2	2.724e-11	1.277e+00	8.168e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	131177	131346	M1	5.170e-09	1.487e+01	9.734e-04
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	131177	131346	E2	2.689e-11	7.737e-02	7.069e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	217692	217955	E2	1.872e-11	2.966e-01	1.077e-05
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	241247	241505	E2	5.699e-12	1.109e-01	2.410e-06
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	246530	246756	M1	2.659e-09	2.700e+01	2.665e-04
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	246530	246756	E2	4.380e-12	4.447e-02	1.736e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	373343	373391	E1	3.628e-01	8.436e+09	3.199e-01
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	373343	373391	M2	2.478e-10	5.762e+00	2.130e+00

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Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	446331	446538	E1	1.322e-05	4.395e+05	9.745e-06
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	446331	446538	M2	6.170e-11	2.052e+00	3.100e-01
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	446534	446745	E1	8.169e-04	1.813e+07	6.020e-04
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	446534	446745	M2	4.650e-10	1.032e+01	2.333e+00
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{5/2}	524036	524311	M2	1.467e-10	1.345e+01	4.552e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	525119	525382	E1	8.297e-05	3.819e+06	5.199e-05
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	525119	525382	M2	5.366e-10	2.470e+01	1.655e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	98	101	M1	9.843e-09	1.131e-05	2.394e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	98	101	E2	4.423e-18	5.084e-15	2.505e-02
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	86515	86609	M1	3.074e-10	7.690e-01	8.777e-05
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	86515	86609	E2	4.805e-09	1.202e+01	4.405e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	110070	110159	M1	8.120e-09	3.286e+01	1.823e-03
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	110070	110159	E2	7.069e-10	2.861e+00	3.150e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	242166	242045	E1	4.206e-06	4.109e+04	5.720e-06
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	242166	242045	M2	1.657e-13	1.619e-03	5.228e-03
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	315154	315192	E1	2.449e-01	4.056e+09	2.557e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	315154	315192	M2	3.593e-11	5.952e-01	5.133e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	315357	315398	E1	3.918e-02	4.333e+08	4.090e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	315357	315398	M2	1.703e-10	1.883e+00	2.428e+00
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	392859	392965	E1	1.646e-01	8.476e+09	1.379e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	392859	392965	M2	3.793e-12	1.953e-01	2.796e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	393942	394036	E1	4.120e-02	1.067e+09	3.442e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	393942	394036	M2	2.269e-11	5.875e-01	1.659e-01
2s2p ² 2S _{1/2}	2s2p ² 2D _{5/2}	86417	86507	E2	7.413e-09	1.850e+01	6.820e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{5/2}	109972	110057	E2	6.179e-10	2.496e+00	2.761e-03
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	115255	115308	M1	1.619e-08	3.590e+01	3.473e-03
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	115255	115308	E2	4.100e-11	9.091e-02	1.593e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	242068	241944	E1	2.925e-06	2.855e+04	3.979e-06
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	242068	241944	M2	2.822e-14	2.755e-04	8.915e-04
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	315056	315090	E1	4.618e-02	7.646e+08	4.825e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	315056	315090	M2	1.557e-10	2.577e+00	2.226e+00
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	315259	315297	E1	4.173e-01	4.611e+09	4.357e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	315259	315297	M2	2.448e-10	2.705e+00	3.494e+00
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{5/2}	392761	392863	M2	9.970e-11	5.132e+00	7.356e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	393844	393934	E1	2.612e-01	6.760e+09	2.183e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	393844	393934	M2	1.323e-10	3.425e+00	9.684e-01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	28838	28801	M1	8.380e-08	1.159e+01	7.195e-02
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	28838	28801	E2	3.381e-12	4.677e-04	8.428e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	155651	155436	E1	1.106e-05	4.455e+04	2.342e-05
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	155651	155436	M2	1.089e-12	4.390e-03	1.298e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	228639	228583	E1	1.546e-02	1.347e+08	2.227e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	228639	228583	M2	3.062e-13	2.668e-03	1.147e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2S _{1/2}	228842	228789	M2	1.287e-12	7.487e-03	4.806e-02
2p ³ 2P _{1/2} ^o	2s2p ² 2S _{1/2}	306344	306356	E1	1.621e-02	5.074e+08	1.742e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	307427	307427	E1	1.251e-01	1.971e+09	1.339e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	307427	307427	M2	1.880e-10	2.963e+00	2.895e+00
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	5283	5251	M1	2.674e-07	1.229e+00	1.259e+00
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	5283	5251	E2	6.083e-13	2.797e-06	2.502e-02
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	132096	131886	E1	5.105e-05	1.481e+05	1.274e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	132096	131886	M2	8.082e-12	2.344e-02	1.576e+00
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	205084	205033	E1	1.571e-01	1.102e+09	2.523e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	205084	205033	M2	1.822e-13	1.277e-03	9.457e-03
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{1/2}	205287	205239	M2	9.666e-12	4.527e-02	5.002e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{1/2}	282789	282806	E1	1.591e-01	4.244e+09	1.852e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	283872	283877	E1	1.874e-02	2.518e+08	2.173e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	283872	283877	M2	3.183e-12	4.278e-02	6.225e-02
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	126813	126635	E1	1.732e-04	4.630e+05	4.502e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	126813	126635	M2	7.236e-12	1.935e-02	1.594e+00

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Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	199801	199781	E1	2.082e-02	1.386e+08	3.432e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	199801	199781	M2	1.608e-12	1.070e-02	9.019e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	200004	199988	E1	2.672e-01	1.188e+09	4.399e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	200004	199988	M2	9.169e-12	4.077e-02	5.129e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	277506	277554	E1	5.735e-02	1.474e+09	6.803e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	277506	277554	M2	2.302e-12	5.916e-02	4.818e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	278589	278625	E1	3.460e-01	4.479e+09	4.088e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	278589	278625	M2	1.963e-11	2.541e-01	4.060e-01
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	73191	73353	M1	1.427e-10	8.539e-02	4.812e-05
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	73191	73353	E2	1.393e-11	8.332e-03	2.102e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	150693	150919	M1	1.445e-08	1.098e+02	2.368e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	150693	150919	E2	6.909e-14	5.248e-04	1.197e-07
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	203	206	M1	1.989e-08	9.442e-05	2.380e+00
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	203	206	E2	1.365e-18	6.483e-15	9.215e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	77705	77773	M1	3.395e-08	6.848e+01	1.079e-02
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	77705	77773	E2	4.035e-09	8.140e+00	5.109e-02
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{5/2}^o$	77502	77566	E2	2.719e-09	5.456e+00	3.470e-02
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	78585	78637	M1	6.220e-08	6.414e+01	1.956e-02
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	78585	78637	E2	9.744e-09	1.005e+01	1.193e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	1083	1070	M1	5.711e-08	1.092e-02	1.319e+00
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	1083	1070	E2	1.610e-16	3.079e-11	7.808e-04
S XII							
$2s^22p \ ^2P_{3/2}^o$	$2s^22p \ ^2P_{1/2}^o$	13135	13148	M1	7.080e-07	2.041e+01	1.331e+00
$2s^22p \ ^2P_{3/2}^o$	$2s^22p \ ^2P_{1/2}^o$	13135	13148	E2	7.376e-12	2.127e-04	1.932e-02
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	193882	193929	E1	8.091e-05	1.015e+06	1.374e-04
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	198675	198727	E1	3.771e-06	2.483e+04	6.247e-06
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	198675	198727	M2	4.634e-11	3.051e-01	2.641e+00
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P_{1/2}^o$	205425	205433	M2	3.213e-11	1.508e-01	1.658e+00
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	346700	346897	E1	1.278e-01	2.564e+09	1.213e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	346700	346897	M2	7.209e-12	1.447e-01	7.726e-02
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P_{1/2}^o$	347005	347159	M2	2.593e-10	3.474e+00	2.772e+00
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	439580	439890	E1	1.313e-01	8.475e+09	9.828e-02
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	464755	465046	E1	1.244e-01	8.973e+09	8.807e-02
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	471430	471704	E1	9.006e-02	3.341e+09	6.285e-02
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	471430	471704	M2	4.358e-11	1.617e+00	1.857e-01
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	180747	180780	E1	6.083e-05	6.630e+05	1.108e-04
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	180747	180780	M2	5.005e-12	5.455e-02	3.790e-01
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	185540	185578	E1	3.498e-05	2.009e+05	6.205e-05
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	185540	185578	M2	2.092e-12	1.201e-02	1.464e-01
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	192290	192284	E1	1.995e-04	8.201e+05	3.416e-04
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	192290	192284	M2	7.596e-11	3.122e-01	4.780e+00
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	333565	333749	E1	1.538e-02	2.857e+08	1.517e-02
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	333565	333749	M2	3.477e-11	6.458e-01	4.184e-01
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	333870	334011	E1	2.036e-01	2.525e+09	2.006e-01
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	333870	334011	M2	2.648e-10	3.284e+00	3.179e+00
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	426445	426741	E1	5.521e-02	3.353e+09	4.259e-02
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	426445	426741	M2	6.307e-11	3.831e+00	3.631e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	451620	451898	E1	1.604e-01	1.093e+10	1.169e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	451620	451898	M2	8.556e-11	5.827e+00	4.148e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	458295	458555	E1	5.034e-01	1.765e+10	3.614e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	458295	458555	M2	1.648e-10	5.777e+00	7.644e-01
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	4793	4797	M1	6.445e-07	2.474e+00	3.322e+00
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	4793	4797	E2	4.257e-14	1.634e-07	2.296e-03
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	11543	11503	E2	5.258e-12	7.735e-05	2.057e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	152818	152968	M1	5.267e-09	2.055e+01	8.514e-04
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	152818	152968	E2	2.749e-11	1.073e-01	4.575e-05
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	153123	153230	E2	5.746e-12	1.500e-02	9.512e-06

Continued. . .

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	277548	277774	M1	1.716e-09	2.208e+01	1.527e-04
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	277548	277774	E2	8.342e-12	1.073e-01	2.318e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	416193	416266	E1	1.168e-01	3.374e+09	9.235e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	416193	416266	M2	2.995e-11	8.653e-01	1.857e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	496028	496199	E1	6.479e-06	2.660e+05	4.299e-06
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	496028	496199	M2	5.001e-10	2.053e+01	1.831e+00
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{1/2}	496598	496731	M2	5.712e-11	1.567e+00	2.085e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{1/2}	580138	580433	E1	6.592e-05	7.407e+06	3.739e-05
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	581923	582193	E1	1.715e-06	9.692e+04	9.696e-07
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	581923	582193	M2	1.909e-11	1.079e+00	4.329e-02
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	6750	6706	M1	9.745e-07	4.872e+00	3.594e+00
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	6750	6706	E2	1.446e-12	7.232e-06	2.857e-02
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	148330	148432	M1	2.101e-08	5.145e+01	3.500e-03
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	148330	148432	E2	4.950e-11	1.212e-01	9.015e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	240905	241162	M1	5.293e-08	1.027e+03	5.427e-03
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	240905	241162	E2	1.006e-13	1.952e-03	4.273e-08
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	266080	266319	M1	4.226e-09	9.996e+01	3.924e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	266080	266319	E2	1.985e-11	4.696e-01	6.260e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	411400	411468	E1	2.299e-01	6.492e+09	1.840e-01
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	411400	411468	M2	1.574e-10	4.445e+00	1.011e+00
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	491235	491402	E1	3.599e-04	1.449e+07	2.411e-04
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	491235	491402	M2	4.451e-10	1.792e+01	1.678e+00
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	491805	491933	E1	3.482e-05	9.367e+05	2.330e-05
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	491805	491933	M2	3.301e-10	8.881e+00	1.241e+00
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	575345	575635	E1	1.156e-05	1.277e+06	6.610e-06
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	575345	575635	M2	2.730e-10	3.017e+01	6.403e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	577130	577396	E1	2.643e-04	1.469e+07	1.507e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	577130	577396	M2	3.376e-11	1.877e+00	7.847e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	141275	141464	M1	9.020e-09	3.010e+01	1.577e-03
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	141275	141464	E2	3.820e-11	1.275e-01	8.036e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	234155	234456	E2	2.611e-11	4.786e-01	1.207e-05
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	259330	259613	E2	1.164e-11	2.616e-01	3.961e-06
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	266005	266270	M1	4.270e-09	5.048e+01	3.965e-04
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	266005	266270	E2	7.420e-12	8.772e-02	2.341e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	404650	404762	E1	3.385e-01	9.248e+09	2.753e-01
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	404650	404762	M2	2.679e-10	7.318e+00	1.807e+00
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	484485	484696	E1	1.246e-05	4.883e+05	8.466e-06
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	484485	484696	M2	5.626e-11	2.204e+00	2.210e-01
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	485055	485227	E1	1.201e-03	3.143e+07	8.148e-04
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	485055	485227	M2	5.184e-10	1.357e+01	2.030e+00
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{5/2}	568595	568929	M2	1.648e-10	1.779e+01	4.004e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	570380	570690	E1	1.183e-04	6.427e+06	6.827e-05
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	570380	570690	M2	6.056e-10	3.289e+01	1.458e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	305	261	M1	2.532e-08	1.931e-04	2.391e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	305	261	E2	5.530e-17	4.218e-13	1.833e-02
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	92880	92992	M1	8.687e-10	2.505e+00	2.310e-04
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	92880	92992	E2	4.198e-09	1.211e+01	3.109e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	118055	118149	M1	1.320e-08	6.144e+01	2.762e-03
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	118055	118149	E2	9.502e-10	4.424e+00	3.431e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	263375	263298	E1	9.781e-06	1.131e+05	1.223e-05
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	263375	263298	M2	2.773e-13	3.206e-03	6.797e-03
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	343210	343231	E1	2.248e-01	4.417e+09	2.156e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	343210	343231	M2	3.896e-11	7.653e-01	4.310e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	343780	343763	E1	3.928e-02	5.160e+08	3.761e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	343780	343763	M2	1.883e-10	2.473e+00	2.073e+00
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	427320	427465	E1	1.558e-01	9.493e+09	1.200e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	427320	427465	M2	3.958e-12	2.412e-01	2.267e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	429105	429225	E1	4.079e-02	1.253e+09	3.129e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	429105	429225	M2	2.643e-11	8.121e-01	1.495e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² ² S _{1/2}	2s2p ² ² D _{5/2}	92575	92730	E2	6.461e-09	1.853e+01	4.826e-02
2s2p ² ² P _{1/2}	2s2p ² ² D _{5/2}	117750	117887	E2	1.018e-09	4.720e+00	3.702e-03
2s2p ² ² P _{3/2}	2s2p ² ² D _{5/2}	124425	124544	M1	2.756e-08	7.129e+01	5.473e-03
2s2p ² ² P _{3/2}	2s2p ² ² D _{5/2}	124425	124544	E2	2.483e-11	6.423e-02	7.656e-05
2p ³ ⁴ S _{3/2}	2s2p ² ² D _{5/2}	263070	263036	E1	4.380e-06	5.053e+04	5.482e-06
2p ³ ⁴ S _{3/2}	2s2p ² ² D _{5/2}	263070	263036	M2	5.226e-14	6.030e-04	1.285e-03
2p ³ ² D _{3/2}	2s2p ² ² D _{5/2}	342905	342969	E1	4.756e-02	9.328e+08	4.565e-02
2p ³ ² D _{3/2}	2s2p ² ² D _{5/2}	342905	342969	M2	1.668e-10	3.273e+00	1.850e+00
2p ³ ² D _{5/2}	2s2p ² ² D _{5/2}	343475	343501	E1	3.922e-01	5.145e+09	3.759e-01
2p ³ ² D _{5/2}	2s2p ² ² D _{5/2}	343475	343501	M2	2.682e-10	3.519e+00	2.961e+00
2p ³ ² P _{1/2}	2s2p ² ² D _{5/2}	427015	427203	M2	1.092e-10	6.645e+00	6.264e-01
2p ³ ² P _{3/2}	2s2p ² ² D _{5/2}	428800	428963	E1	2.392e-01	7.338e+09	1.835e-01
2p ³ ² P _{3/2}	2s2p ² ² D _{5/2}	428800	428963	M2	1.611e-10	4.944e+00	9.133e-01
2s2p ² ² P _{3/2}	2s2p ² ² S _{1/2}	31850	31814	M1	1.537e-07	2.595e+01	1.195e-01
2s2p ² ² P _{3/2}	2s2p ² ² S _{1/2}	31850	31814	E2	5.764e-12	9.729e-04	1.066e-03
2p ³ ⁴ S _{3/2}	2s2p ² ² S _{1/2}	170495	170305	E1	2.344e-05	1.134e+05	4.532e-05
2p ³ ⁴ S _{3/2}	2s2p ² ² S _{1/2}	170495	170305	M2	1.995e-12	9.648e-03	1.807e-01
2p ³ ² D _{3/2}	2s2p ² ² S _{1/2}	250330	250239	E1	2.426e-02	2.533e+08	3.191e-02
2p ³ ² D _{3/2}	2s2p ² ² S _{1/2}	250330	250239	M2	5.848e-13	6.106e-03	1.670e-02
2p ³ ² D _{5/2}	2s2p ² ² S _{1/2}	250900	250770	M2	2.172e-12	1.519e-02	6.162e-02
2p ³ ² P _{1/2}	2s2p ² ² S _{1/2}	334440	334472	E1	9.168e-03	3.421e+08	9.024e-03
2p ³ ² P _{3/2}	2s2p ² ² S _{1/2}	336225	336233	E1	1.217e-01	2.295e+09	1.192e-01
2p ³ ² P _{3/2}	2s2p ² ² S _{1/2}	336225	336233	M2	2.021e-10	3.810e+00	2.379e+00
2s2p ² ² P _{3/2}	2s2p ² ² P _{1/2}	6675	6657	M1	3.258e-07	2.408e+00	1.210e+00
2s2p ² ² P _{3/2}	2s2p ² ² P _{1/2}	6675	6657	E2	8.958e-13	6.621e-06	1.808e-02
2p ³ ⁴ S _{3/2}	2s2p ² ² P _{1/2}	145320	145149	E1	7.545e-05	2.651e+05	1.711e-04
2p ³ ⁴ S _{3/2}	2s2p ² ² P _{1/2}	145320	145149	M2	8.717e-12	3.063e-02	1.275e+00
2p ³ ² D _{3/2}	2s2p ² ² P _{1/2}	225155	225082	E1	1.441e-01	1.218e+09	2.108e-01
2p ³ ² D _{3/2}	2s2p ² ² P _{1/2}	225155	225082	M2	1.344e-13	1.135e-03	5.272e-03
2p ³ ² D _{5/2}	2s2p ² ² P _{1/2}	225725	225614	M2	1.039e-11	5.881e-02	4.048e-01
2p ³ ² P _{1/2}	2s2p ² ² P _{1/2}	309265	309316	E1	1.558e-01	4.972e+09	1.658e-01
2p ³ ² P _{3/2}	2s2p ² ² P _{1/2}	311050	311076	E1	9.897e-03	1.597e+08	1.047e-02
2p ³ ² P _{3/2}	2s2p ² ² P _{1/2}	311050	311076	M2	8.245e-12	1.330e-01	1.225e-01
2p ³ ⁴ S _{3/2}	2s2p ² ² P _{3/2}	138645	138491	E1	2.503e-04	8.004e+05	5.949e-04
2p ³ ⁴ S _{3/2}	2s2p ² ² P _{3/2}	138645	138491	M2	7.927e-12	2.535e-02	1.335e+00
2p ³ ² D _{3/2}	2s2p ² ² P _{3/2}	218480	218425	E1	1.773e-02	1.411e+08	2.672e-02
2p ³ ² D _{3/2}	2s2p ² ² P _{3/2}	218480	218425	M2	1.889e-12	1.503e-02	8.109e-02
2p ³ ² D _{5/2}	2s2p ² ² P _{3/2}	219050	218956	E1	2.519e-01	1.342e+09	3.787e-01
2p ³ ² D _{5/2}	2s2p ² ² P _{3/2}	219050	218956	M2	9.728e-12	5.185e-02	4.146e-01
2p ³ ² P _{1/2}	2s2p ² ² P _{3/2}	302590	302658	E1	5.246e-02	1.603e+09	5.707e-02
2p ³ ² P _{1/2}	2s2p ² ² P _{3/2}	302590	302658	M2	2.593e-12	7.921e-02	4.184e-02
2p ³ ² P _{3/2}	2s2p ² ² P _{3/2}	304375	304419	E1	3.318e-01	5.128e+09	3.589e-01
2p ³ ² P _{3/2}	2s2p ² ² P _{3/2}	304375	304419	M2	2.209e-11	3.413e-01	3.503e-01
2p ³ ² D _{5/2}	2p ³ ⁴ S _{3/2}	80405	80464	M1	3.525e-10	2.537e-01	1.083e-04
2p ³ ² D _{5/2}	2p ³ ⁴ S _{3/2}	80405	80464	E2	2.103e-11	1.513e-02	2.404e-04
2p ³ ² P _{1/2}	2p ³ ⁴ S _{3/2}	163945	164167	M1	2.453e-08	2.205e+02	3.695e-03
2p ³ ² P _{1/2}	2p ³ ⁴ S _{3/2}	163945	164167	E2	2.969e-13	2.669e-03	3.997e-07
2p ³ ² D _{5/2}	2p ³ ² D _{3/2}	570	531	M1	5.091e-08	1.598e-03	2.369e+00
2p ³ ² D _{5/2}	2p ³ ² D _{3/2}	570	531	E2	2.670e-17	8.384e-13	1.060e-03
2p ³ ² P _{1/2}	2p ³ ² D _{3/2}	84110	84233	M1	5.685e-08	1.345e+02	1.669e-02
2p ³ ² P _{1/2}	2p ³ ² D _{3/2}	84110	84233	E2	3.737e-09	8.843e+00	3.724e-02
2p ³ ² P _{1/2}	2p ³ ² D _{5/2}	83540	83702	E2	2.506e-09	5.856e+00	2.545e-02
2p ³ ² P _{3/2}	2p ³ ² D _{5/2}	85325	85462	M1	1.049e-07	1.277e+02	3.034e-02
2p ³ ² P _{3/2}	2p ³ ² D _{5/2}	85325	85462	E2	9.115e-09	1.110e+01	8.697e-02
2p ³ ² P _{3/2}	2p ³ ² P _{1/2}	1785	1760	M1	9.335e-08	4.824e-02	1.311e+00
2p ³ ² P _{3/2}	2p ³ ² P _{1/2}	1785	1760	E2	7.156e-16	3.698e-10	7.812e-04
Cl XIII							
2s ² 2p ² P _{3/2}	2s ² 2p ² P _{1/2}	17410	17423	M1	9.380e-07	4.749e+01	1.331e+00

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s^2 2p^2 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^2P_{1/2}^o$	17410	17423	E2	1.291e-11	6.534e-04	1.453e-02
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	211270	211308	E1	1.174e-04	1.749e+06	1.830e-04
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	217740	217780	E1	5.359e-06	4.239e+04	8.102e-06
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	217740	217780	M2	5.282e-11	4.178e-01	2.288e+00
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	226610	226646	M2	3.831e-11	2.188e-01	1.472e+00
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	377770	377967	E1	1.237e-01	2.947e+09	1.077e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	377770	377967	M2	7.553e-12	1.799e-01	6.258e-02
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	378310	378499	M2	2.851e-10	4.541e+00	2.353e+00
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	476620	476922	E1	1.416e-01	1.075e+10	9.778e-02
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	504100	504375	E1	9.855e-02	8.361e+09	6.433e-02
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	512200	512489	E1	8.268e-02	3.621e+09	5.311e-02
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	512200	512489	M2	4.818e-11	2.110e+00	1.601e-01
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	193860	193884	E1	8.379e-05	1.051e+06	1.423e-04
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	193860	193884	M2	5.243e-12	6.573e-02	3.218e-01
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	200330	200356	E1	4.956e-05	3.318e+05	8.144e-05
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	200330	200356	M2	2.218e-12	1.485e-02	1.234e-01
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	209200	209222	E1	2.916e-04	1.419e+06	4.589e-04
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	209200	209222	M2	8.305e-11	4.042e-01	4.057e+00
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	360360	360543	E1	1.309e-02	2.838e+08	1.196e-02
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	360360	360543	M2	3.699e-11	8.019e-01	3.531e-01
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	360900	361075	E1	1.920e-01	2.782e+09	1.750e-01
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	360900	361075	M2	2.947e-10	4.271e+00	2.800e+00
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	459210	459498	E1	3.885e-02	2.735e+09	2.783e-02
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	459210	459498	M2	5.856e-11	4.124e+00	2.700e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	486690	486951	E1	1.636e-01	1.294e+10	1.106e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	486690	486951	M2	1.070e-10	8.461e+00	4.145e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	494790	495065	E1	4.752e-01	1.942e+10	3.160e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	494790	495065	M2	1.839e-10	7.517e+00	6.782e-01
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	6470	6472	M1	8.684e-07	6.066e+00	3.318e+00
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	6470	6472	E2	7.824e-14	5.466e-07	1.719e-03
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	15340	15338	E2	9.326e-12	2.439e-04	1.539e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	166500	166659	M1	8.471e-09	3.924e+01	1.257e-03
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	166500	166659	E2	4.033e-11	1.868e-01	5.188e-05
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	167040	167191	E2	8.025e-12	2.494e-02	1.023e-05
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	300930	301181	M1	2.741e-09	4.147e+01	2.251e-04
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	300930	301181	E2	1.139e-11	1.724e-01	2.484e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	451770	451824	E1	1.104e-01	3.757e+09	8.041e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	451770	451824	M2	3.516e-11	1.197e+00	1.705e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	538250	538413	E1	6.761e-06	3.268e+05	4.134e-06
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	538250	538413	M2	5.532e-10	2.674e+01	1.586e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{1/2}$	539310	539481	M2	6.243e-11	2.020e+00	1.779e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{1/2}$	629000	629297	E1	8.960e-05	1.183e+07	4.687e-05
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	631810	632097	E1	2.605e-06	1.736e+05	1.357e-06
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	631810	632097	M2	1.668e-11	1.111e+00	2.954e-02
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	8870	8866	M1	1.287e-06	1.125e+01	3.591e+00
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	8870	8866	E2	2.493e-12	2.179e-05	2.131e-02
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	160570	160719	M1	3.529e-08	1.013e+02	5.429e-03
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	160570	160719	E2	7.176e-11	2.061e-01	1.029e-04
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	258880	259142	M1	8.159e-08	1.827e+03	7.786e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	258880	259142	E2	4.049e-16	9.069e-06	1.386e-10
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	286360	286595	M1	1.079e-08	2.957e+02	9.313e-04
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	286360	286595	E2	2.792e-11	7.650e-01	7.065e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	445300	445351	E1	2.163e-01	7.155e+09	1.599e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	445300	445351	M2	1.736e-10	5.742e+00	8.793e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	531780	531941	E1	5.637e-04	2.660e+07	3.489e-04
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	531780	531941	M2	4.831e-10	2.280e+01	1.436e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	532840	533009	E1	4.896e-05	1.546e+06	3.024e-05
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	532840	533009	M2	3.636e-10	1.148e+01	1.074e+00

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	622530	622825	E1	1.602e-05	2.073e+06	8.469e-06
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	622530	622825	M2	3.015e-10	3.900e+01	5.583e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	625340	625624	E1	3.532e-04	2.306e+07	1.859e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	625340	625624	M2	4.188e-11	2.734e+00	7.652e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	151160	151321	M1	1.523e-08	5.817e+01	2.489e-03
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	151160	151321	E2	5.269e-11	2.012e-01	9.057e-05
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	250010	250276	E2	3.443e-11	7.192e-01	1.308e-05
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	277490	277728	E2	2.262e-11	5.819e-01	6.289e-06
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	285590	285842	M1	6.517e-09	8.879e+01	5.638e-04
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	285590	285842	E2	1.215e-11	1.655e-01	3.097e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	436430	436485	E1	3.174e-01	1.008e+10	2.394e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	436430	436485	M2	2.873e-10	9.126e+00	1.545e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	522910	523074	E1	9.153e-06	4.176e+05	5.760e-06
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	522910	523074	M2	4.842e-11	2.209e+00	1.514e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	523970	524143	E1	1.723e-03	5.261e+07	1.082e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	523970	524143	M2	5.773e-10	1.763e+01	1.794e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{5/2}$	613660	613959	M2	1.850e-10	2.325e+01	3.576e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	616470	616758	E1	1.637e-04	1.038e+07	8.738e-05
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	616470	616758	M2	6.808e-10	4.319e+01	1.298e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	540	531	M1	5.131e-08	1.612e-03	2.387e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	540	531	E2	3.457e-16	1.086e-11	1.370e-02
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	98850	98955	M1	2.187e-09	7.143e+00	5.466e-04
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	98850	98955	E2	3.599e-09	1.175e+01	2.212e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	126330	126407	M1	2.035e-08	1.084e+02	3.981e-03
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	126330	126407	E2	1.251e-09	6.667e+00	3.689e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	285270	285164	E1	2.130e-05	2.889e+05	2.459e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	285270	285164	M2	4.454e-13	6.040e-03	8.593e-03
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	371750	371753	E1	2.066e-01	4.761e+09	1.829e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	371750	371753	M2	4.208e-11	9.698e-01	3.664e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	372810	372822	E1	3.982e-02	6.153e+08	3.516e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	372810	372822	M2	2.076e-10	3.208e+00	1.792e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	462500	462638	E1	1.484e-01	1.060e+10	1.056e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	462500	462638	M2	4.074e-12	2.908e-01	1.841e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	465310	465437	E1	4.070e-02	1.470e+09	2.879e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	465310	465437	M2	3.077e-11	1.112e+00	1.365e-01
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	98310	98423	E2	5.496e-09	1.776e+01	3.433e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	125790	125876	E2	1.532e-09	8.095e+00	4.574e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	133890	133989	M1	4.515e-08	1.352e+02	8.333e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	133890	133989	E2	1.318e-11	3.945e-02	3.262e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	284730	284632	E1	6.601e-06	8.918e+04	7.634e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	284730	284632	M2	9.426e-14	1.273e-03	1.829e-03
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	371210	371222	E1	4.944e-02	1.136e+09	4.384e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	371210	371222	M2	1.769e-10	4.066e+00	1.547e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	372270	372290	E1	3.703e-01	5.705e+09	3.274e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	372270	372290	M2	2.916e-10	4.493e+00	2.528e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{5/2}$	461960	462106	M2	1.186e-10	8.450e+00	5.379e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	464770	464905	E1	2.193e-01	7.902e+09	1.553e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	464770	464905	M2	1.968e-10	7.092e+00	8.760e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	35580	35566	M1	2.664e-07	5.619e+01	1.852e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	35580	35566	E2	9.647e-12	2.035e-03	1.277e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	186420	186209	E1	4.817e-05	2.785e+05	8.515e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	186420	186209	M2	3.440e-12	1.989e-02	2.384e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	272900	272798	E1	3.583e-02	4.447e+08	4.324e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	272900	272798	M2	9.902e-13	1.229e-02	2.182e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2S_{1/2}$	273960	273867	M2	3.535e-12	2.948e-02	7.699e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2S_{1/2}$	363650	363683	E1	3.880e-03	1.712e+08	3.512e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	366460	366482	E1	1.169e-01	2.618e+09	1.050e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	366460	366482	M2	2.131e-10	4.773e+00	1.937e+00
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	8100	8113	M1	3.750e-07	4.117e+00	1.143e+00

Continued. . .

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^2P_{1/2}$	8100	8113	E2	1.185e-12	1.301e-05	1.321e-02
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	158940	158756	E1	1.071e-04	4.500e+05	2.220e-04
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	158940	158756	M2	9.117e-12	3.832e-02	1.019e+00
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	245420	245345	E1	1.294e-01	1.299e+09	1.736e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	245420	245345	M2	6.385e-14	6.409e-04	1.934e-03
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{1/2}$	246480	246414	M2	1.087e-11	7.337e-02	3.250e-01
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{1/2}$	336170	336230	E1	1.520e-01	5.730e+09	1.488e-01
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	338980	339029	E1	3.614e-03	6.927e+07	3.509e-03
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	338980	339029	M2	1.738e-11	3.330e-01	1.995e-01
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	150840	150643	E1	3.513e-04	1.329e+06	7.677e-04
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	150840	150643	M2	8.616e-12	3.260e-02	1.127e+00
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	237320	237232	E1	1.482e-02	1.391e+08	2.056e-02
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	237320	237232	M2	2.225e-12	2.088e-02	7.456e-02
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{3/2}$	238380	238300	E1	2.379e-01	1.502e+09	3.287e-01
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{3/2}$	238380	238300	M2	1.021e-11	6.448e-02	3.377e-01
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{3/2}$	328070	328116	E1	4.795e-02	1.722e+09	4.811e-02
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{3/2}$	328070	328116	M2	2.892e-12	1.039e-01	3.663e-02
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	330880	330916	E1	3.201e-01	5.846e+09	3.185e-01
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	330880	330916	M2	2.497e-11	4.559e-01	3.083e-01
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^4S_{3/2}^o$	87540	87657	M1	8.291e-10	7.082e-01	2.339e-04
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^4S_{3/2}^o$	87540	87657	E2	3.088e-11	2.638e-02	2.731e-04
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^4S_{3/2}^o$	177230	177473	M1	4.018e-08	4.221e+02	5.599e-03
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^4S_{3/2}^o$	177230	177473	E2	9.094e-13	9.553e-03	9.690e-07
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^2D_{3/2}^o$	1060	1068	M1	1.017e-07	1.290e-02	2.354e+00
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^2D_{3/2}^o$	1060	1068	E2	2.438e-16	3.094e-11	1.190e-03
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{3/2}^o$	90750	90884	M1	9.107e-08	2.509e+02	2.478e-02
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{3/2}^o$	90750	90884	E2	3.493e-09	9.621e+00	2.771e-02
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{5/2}^o$	89690	89816	E2	2.323e-09	6.251e+00	1.910e-02
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2D_{5/2}^o$	92500	92615	M1	1.695e-07	2.424e+02	4.526e-02
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2D_{5/2}^o$	92500	92615	E2	8.626e-09	1.234e+01	6.467e-02
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2P_{1/2}^o$	2810	2799	M1	1.473e-07	1.924e-01	1.301e+00
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2P_{1/2}^o$	2810	2799	E2	2.921e-15	3.817e-09	7.931e-04
Ar XIV							
$2s^22p\ ^2P_{3/2}^o$	$2s^22p\ ^2P_{1/2}^o$	22658	22668	M1	1.220e-06	1.045e+02	1.331e+00
$2s^22p\ ^2P_{3/2}^o$	$2s^22p\ ^2P_{1/2}^o$	22658	22668	E2	2.178e-11	1.867e-03	1.114e-02
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	230270	229350	E1	1.665e-04	2.922e+06	2.391e-04
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	238950	237939	E1	7.441e-06	7.025e+04	1.030e-05
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	238950	237939	M2	6.026e-11	5.689e-01	2.001e+00
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{1/2}^o$	250420	249425	M2	4.592e-11	3.176e-01	1.324e+00
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	410200	410312	E1	1.205e-01	3.384e+09	9.671e-02
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	410200	410312	M2	7.797e-12	2.189e-01	5.050e-02
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{1/2}^o$	411210	411272	M2	3.125e-10	5.876e+00	2.010e+00
$2s2p^2\ ^2S_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	514420	514675	E1	1.513e-01	1.337e+10	9.677e-02
$2s2p^2\ ^2P_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	545250	545434	E1	7.539e-02	7.480e+09	4.550e-02
$2s2p^2\ ^2P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	554680	554954	E1	7.599e-02	3.903e+09	4.508e-02
$2s2p^2\ ^2P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	554680	554954	M2	5.313e-11	2.729e+00	1.391e-01
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	207612	206682	E1	1.121e-04	1.597e+06	1.785e-04
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	207612	206682	M2	5.432e-12	7.738e-02	2.752e-01
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	216292	215270	E1	6.827e-05	5.276e+05	1.044e-04
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	216292	215270	M2	2.333e-12	1.802e-02	1.046e-01
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	227762	226757	E1	4.171e-04	2.385e+06	6.056e-04
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	227762	226757	M2	9.031e-11	5.162e-01	3.465e+00
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	387542	387643	E1	1.095e-02	2.745e+08	9.304e-03
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	387542	387643	M2	3.899e-11	9.769e-01	2.994e-01
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	388552	388604	E1	1.817e-01	3.050e+09	1.539e-01
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	388552	388604	M2	3.280e-10	5.507e+00	2.501e+00
$2s2p^2\ ^2S_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	491762	492006	E1	2.523e-02	2.037e+09	1.688e-02

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2S _{1/2}	2s ² 2p 2P _{3/2} ^o	491762	492006	M2	5.202e-11	4.200e+00	1.954e-01
2s2p ² 2P _{1/2}	2s ² 2p 2P _{3/2} ^o	522592	522765	E1	1.657e-01	1.510e+10	1.043e-01
2s2p ² 2P _{1/2}	2s ² 2p 2P _{3/2} ^o	522592	522765	M2	1.320e-10	1.203e+01	4.133e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P _{3/2} ^o	532022	532286	E1	4.510e-01	2.131e+10	2.790e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P _{3/2} ^o	532022	532286	M2	2.049e-10	9.680e+00	6.078e-01
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	8680	8588	M1	1.150e-06	1.415e+01	3.313e+00
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	8680	8588	E2	1.397e-13	1.718e-06	1.313e-03
2s2p ² 4P _{5/2}	2s2p ² 4P _{1/2}	20150	20074	E2	1.597e-11	7.153e-04	1.175e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	179930	180961	M1	1.316e-08	7.186e+01	1.798e-03
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	179930	180961	E2	5.790e-11	3.162e-01	5.819e-05
2s2p ² 2D _{5/2}	2s2p ² 4P _{1/2}	180940	181921	E2	1.085e-11	3.994e-02	1.074e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	324410	325603	M1	4.221e-09	7.462e+01	3.205e-04
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	324410	325603	E2	1.515e-11	2.679e-01	2.614e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	488630	488695	E1	1.049e-01	4.177e+09	7.066e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	488630	488695	M2	4.172e-11	1.662e+00	1.599e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	579930	581770	E1	6.034e-06	3.406e+05	3.415e-06
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	579930	581770	M2	6.101e-10	3.443e+01	1.386e+00
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{1/2}	582530	583671	M2	6.804e-11	2.577e+00	1.531e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{1/2}	678430	679577	E1	1.184e-04	1.823e+07	5.735e-05
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	682730	683895	E1	3.906e-06	3.046e+05	1.880e-06
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	682730	683895	M2	1.368e-11	1.067e+00	1.913e-02
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	11470	11486	M1	1.666e-06	2.444e+01	3.587e+00
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	11470	11486	E2	4.123e-12	6.047e-05	1.620e-02
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	172260	173333	M1	5.762e-08	1.924e+02	8.220e-03
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	172260	173333	E2	1.020e-10	3.406e-01	1.166e-04
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	275470	276736	M1	1.197e-07	3.059e+03	1.070e-02
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	275470	276736	E2	1.775e-13	4.534e-03	4.988e-08
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	306300	307495	M1	2.464e-08	7.771e+02	1.982e-03
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	306300	307495	E2	3.805e-11	1.200e+00	7.794e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	479950	480107	E1	2.045e-01	7.860e+09	1.402e-01
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	479950	480107	M2	1.904e-10	7.317e+00	7.696e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	571250	573182	E1	8.687e-04	4.759e+07	4.989e-04
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	571250	573182	M2	5.231e-10	2.866e+01	1.243e+00
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	573850	575083	E1	6.703e-05	2.465e+06	3.837e-05
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	573850	575083	M2	3.998e-10	1.470e+01	9.404e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	669750	670989	E1	2.168e-05	3.255e+06	1.064e-05
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	669750	670989	M2	3.322e-10	4.988e+01	4.919e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	674050	675307	E1	4.579e-04	3.482e+07	2.232e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	674050	675307	M2	5.188e-11	3.945e+00	7.536e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	159780	160886	M1	2.501e-08	1.079e+02	3.843e-03
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	159780	160886	E2	7.078e-11	3.055e-01	1.012e-04
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	264000	265249	E2	4.288e-11	1.006e+00	1.369e-05
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	294830	296008	E2	4.153e-11	1.214e+00	9.537e-06
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	304260	305528	M1	9.483e-09	1.476e+02	7.675e-04
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	304260	305528	E2	1.925e-11	2.997e-01	4.021e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	468480	468620	E1	2.989e-01	1.095e+10	2.100e-01
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	468480	468620	M2	3.059e-10	1.120e+01	1.330e+00
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	559780	561696	E1	3.941e-06	2.073e+05	2.310e-06
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	559780	561696	M2	3.856e-11	2.029e+00	9.735e-02
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	562380	563596	E1	2.419e-03	8.541e+07	1.413e-03
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	562380	563596	M2	6.430e-10	2.271e+01	1.607e+00
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{5/2}	658280	659503	M2	2.076e-10	3.011e+01	3.238e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	662580	663821	E1	2.198e-04	1.615e+07	1.090e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	662580	663821	M2	7.624e-10	5.602e+01	1.166e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	1010	960	M1	9.248e-08	9.479e-03	2.382e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	1010	960	E2	1.551e-15	1.590e-10	1.043e-02
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	104220	104363	M1	4.909e-09	1.783e+01	1.163e-03
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	104220	104363	E2	3.016e-09	1.096e+01	1.580e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	135050	135122	M1	2.992e-08	1.822e+02	5.475e-03
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	135050	135122	E2	1.593e-09	9.698e+00	3.845e-03

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 4S_{3/2}^o$	$2s2p^2 2D_{3/2}$	308700	307734	E1	4.387e-05	6.928e+05	4.694e-05
$2p^3 4S_{3/2}^o$	$2s2p^2 2D_{3/2}$	308700	307734	M2	6.892e-13	1.088e-02	1.058e-02
$2p^3 2D_{3/2}^o$	$2s2p^2 2D_{3/2}$	400000	400809	E1	1.899e-01	5.087e+09	1.560e-01
$2p^3 2D_{3/2}^o$	$2s2p^2 2D_{3/2}$	400000	400809	M2	4.535e-11	1.215e+00	3.151e-01
$2p^3 2D_{5/2}^o$	$2s2p^2 2D_{3/2}$	402600	402710	E1	4.080e-02	7.357e+08	3.336e-02
$2p^3 2D_{5/2}^o$	$2s2p^2 2D_{3/2}$	402600	402710	M2	2.286e-10	4.122e+00	1.566e+00
$2p^3 2P_{1/2}^o$	$2s2p^2 2D_{3/2}$	498500	498616	E1	1.423e-01	1.180e+10	9.395e-02
$2p^3 2P_{1/2}^o$	$2s2p^2 2D_{3/2}$	498500	498616	M2	4.136e-12	3.429e-01	1.493e-02
$2p^3 2P_{3/2}^o$	$2s2p^2 2D_{3/2}$	502800	502934	E1	4.081e-02	1.721e+09	2.671e-02
$2p^3 2P_{3/2}^o$	$2s2p^2 2D_{3/2}$	502800	502934	M2	3.580e-11	1.510e+00	1.259e-01
$2s2p^2 2S_{1/2}$	$2s2p^2 2D_{5/2}$	103210	103402	E2	4.535e-09	1.617e+01	2.443e-02
$2s2p^2 2P_{1/2}$	$2s2p^2 2D_{5/2}$	134040	134161	E2	2.123e-09	1.275e+01	5.236e-03
$2s2p^2 2P_{3/2}$	$2s2p^2 2D_{5/2}$	143470	143682	M1	7.152e-08	2.462e+02	1.231e-02
$2s2p^2 2P_{3/2}$	$2s2p^2 2D_{5/2}$	143470	143682	E2	5.609e-12	1.931e-02	1.126e-05
$2p^3 4S_{3/2}^o$	$2s2p^2 2D_{5/2}$	307690	306774	E1	1.003e-05	1.574e+05	1.076e-05
$2p^3 4S_{3/2}^o$	$2s2p^2 2D_{5/2}$	307690	306774	M2	1.661e-13	2.607e-03	2.574e-03
$2p^3 2D_{3/2}^o$	$2s2p^2 2D_{5/2}$	398990	399849	E1	5.173e-02	1.379e+09	4.259e-02
$2p^3 2D_{3/2}^o$	$2s2p^2 2D_{5/2}$	398990	399849	M2	1.856e-10	4.948e+00	1.299e+00
$2p^3 2D_{5/2}^o$	$2s2p^2 2D_{5/2}$	401590	401749	E1	3.509e-01	6.296e+09	2.875e-01
$2p^3 2D_{5/2}^o$	$2s2p^2 2D_{5/2}$	401590	401749	M2	3.148e-10	5.648e+00	2.172e+00
$2p^3 2P_{1/2}^o$	$2s2p^2 2D_{5/2}$	497490	497656	M2	1.281e-10	1.058e+01	4.650e-01
$2p^3 2P_{3/2}^o$	$2s2p^2 2D_{5/2}$	501790	501974	E1	2.011e-01	8.452e+09	1.319e-01
$2p^3 2P_{3/2}^o$	$2s2p^2 2D_{5/2}$	501790	501974	M2	2.409e-10	1.012e+01	8.522e-01
$2s2p^2 2P_{3/2}$	$2s2p^2 2S_{1/2}$	40260	40279	M1	4.347e-07	1.176e+02	2.669e-01
$2s2p^2 2P_{3/2}$	$2s2p^2 2S_{1/2}$	40260	40279	E2	1.578e-11	4.268e-03	1.438e-03
$2p^3 4S_{3/2}^o$	$2s2p^2 2S_{1/2}$	204480	203371	E1	9.483e-05	6.541e+05	1.535e-04
$2p^3 4S_{3/2}^o$	$2s2p^2 2S_{1/2}$	204480	203371	M2	5.578e-12	3.847e-02	2.967e-01
$2p^3 2D_{3/2}^o$	$2s2p^2 2S_{1/2}$	295780	296446	E1	4.966e-02	7.277e+08	5.514e-02
$2p^3 2D_{3/2}^o$	$2s2p^2 2S_{1/2}$	295780	296446	M2	1.510e-12	2.213e-02	2.593e-02
$2p^3 2D_{5/2}^o$	$2s2p^2 2S_{1/2}$	298380	298347	M2	5.484e-12	5.426e-02	9.238e-02
$2p^3 2P_{1/2}^o$	$2s2p^2 2S_{1/2}$	394280	394253	E1	8.206e-04	4.254e+07	6.852e-04
$2p^3 2P_{3/2}^o$	$2s2p^2 2S_{1/2}$	398580	398571	E1	1.098e-01	2.909e+09	9.072e-02
$2p^3 2P_{3/2}^o$	$2s2p^2 2S_{1/2}$	398580	398571	M2	2.203e-10	5.835e+00	1.556e+00
$2s2p^2 2P_{3/2}$	$2s2p^2 2P_{1/2}$	9430	9520	M1	4.078e-07	6.163e+00	1.059e+00
$2s2p^2 2P_{3/2}$	$2s2p^2 2P_{1/2}$	9430	9520	E2	1.410e-12	2.131e-05	9.733e-03
$2p^3 4S_{3/2}^o$	$2s2p^2 2P_{1/2}$	173650	172612	E1	1.461e-04	7.258e+05	2.786e-04
$2p^3 4S_{3/2}^o$	$2s2p^2 2P_{1/2}$	173650	172612	M2	9.210e-12	4.576e-02	8.012e-01
$2p^3 2D_{3/2}^o$	$2s2p^2 2P_{1/2}$	264950	265687	E1	1.132e-01	1.333e+09	1.403e-01
$2p^3 2D_{3/2}^o$	$2s2p^2 2P_{1/2}$	264950	265687	M2	5.933e-15	6.984e-05	1.415e-04
$2p^3 2D_{5/2}^o$	$2s2p^2 2P_{1/2}$	267550	267588	M2	1.105e-11	8.793e-02	2.579e-01
$2p^3 2P_{1/2}^o$	$2s2p^2 2P_{1/2}$	363450	363494	E1	1.470e-01	6.476e+09	1.331e-01
$2p^3 2P_{3/2}^o$	$2s2p^2 2P_{1/2}$	367750	367812	E1	4.265e-04	9.622e+06	3.817e-04
$2p^3 2P_{3/2}^o$	$2s2p^2 2P_{1/2}$	367750	367812	M2	3.153e-11	7.113e-01	2.835e-01
$2p^3 4S_{3/2}^o$	$2s2p^2 2P_{3/2}$	164220	163092	E1	4.801e-04	2.130e+06	9.692e-04
$2p^3 4S_{3/2}^o$	$2s2p^2 2P_{3/2}$	164220	163092	M2	9.288e-12	4.120e-02	9.578e-01
$2p^3 2D_{3/2}^o$	$2s2p^2 2P_{3/2}$	255520	256167	E1	1.214e-02	1.328e+08	1.560e-02
$2p^3 2D_{3/2}^o$	$2s2p^2 2P_{3/2}$	255520	256167	M2	2.634e-12	2.882e-02	7.008e-02
$2p^3 2D_{5/2}^o$	$2s2p^2 2P_{3/2}$	258120	258067	E1	2.252e-01	1.667e+09	2.873e-01
$2p^3 2D_{5/2}^o$	$2s2p^2 2P_{3/2}$	258120	258067	M2	1.062e-11	7.861e-02	2.764e-01
$2p^3 2P_{1/2}^o$	$2s2p^2 2P_{3/2}$	354020	353974	E1	4.374e-02	1.828e+09	4.068e-02
$2p^3 2P_{1/2}^o$	$2s2p^2 2P_{3/2}$	354020	353974	M2	3.201e-12	1.338e-01	3.229e-02
$2p^3 2P_{3/2}^o$	$2s2p^2 2P_{3/2}$	358320	358292	E1	3.104e-01	6.645e+09	2.852e-01
$2p^3 2P_{3/2}^o$	$2s2p^2 2P_{3/2}$	358320	358292	M2	2.838e-11	6.074e-01	2.760e-01
$2p^3 2D_{5/2}^o$	$2p^3 4S_{3/2}^o$	93900	94975	M1	1.863e-09	1.868e+00	4.850e-04
$2p^3 2D_{5/2}^o$	$2p^3 4S_{3/2}^o$	93900	94975	E2	4.437e-11	4.449e-02	3.084e-04
$2p^3 2P_{1/2}^o$	$2p^3 4S_{3/2}^o$	189800	190882	M1	6.387e-08	7.761e+02	8.274e-03
$2p^3 2P_{1/2}^o$	$2p^3 4S_{3/2}^o$	189800	190882	E2	2.326e-12	2.827e-02	1.992e-06

Continued. . .

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	2600	1900	M1	1.793e-07	7.201e-02	2.334e+00
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	2600	1900	E2	1.507e-15	6.052e-10	1.308e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	98500	97806	M1	1.400e-07	4.466e+02	3.539e-02
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	98500	97806	E2	3.295e-09	1.051e+01	2.097e-02
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{5/2}^o$	95900	95906	E2	2.164e-09	6.639e+00	1.461e-02
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	100200	100224	M1	2.637e-07	4.416e+02	6.505e-02
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	100200	100224	E2	8.266e-09	1.385e+01	4.890e-02
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	4300	4317	M1	2.248e-07	6.989e-01	1.287e+00
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	4300	4317	E2	1.094e-14	3.402e-08	8.096e-04
K XV							
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	29017	29020	M1	1.561e-06	2.193e+02	1.331e+00
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	29017	29020	E2	3.561e-11	5.001e-03	8.679e-03
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	248320	248159	E1	2.317e-04	4.759e+06	3.074e-04
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	259630	259394	E1	1.013e-05	1.136e+05	1.285e-05
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	259630	259394	M2	6.887e-11	7.728e-01	1.765e+00
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	274200	274006	M2	5.540e-11	4.624e-01	1.205e+00
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	443960	444127	E1	1.182e-01	3.889e+09	8.764e-02
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	443960	444127	M2	7.932e-12	2.609e-01	4.051e-02
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	445510	445740	M2	3.415e-10	7.543e+00	1.725e+00
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	552860	553175	E1	1.589e-01	1.622e+10	9.456e-02
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	588260	588592	E1	5.602e-02	6.473e+09	3.133e-02
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	599080	599383	E1	6.988e-02	4.187e+09	3.838e-02
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	599080	599383	M2	5.848e-11	3.503e+00	1.215e-01
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	219303	219139	E1	1.461e-04	2.340e+06	2.195e-04
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	219303	219139	M2	5.567e-12	8.916e-02	2.367e-01
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	230613	230373	E1	9.181e-05	8.125e+05	1.312e-04
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	230613	230373	M2	2.435e-12	2.155e-02	8.909e-02
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	245183	244986	E1	5.861e-04	3.911e+06	7.876e-04
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	245183	244986	M2	9.772e-11	6.520e-01	2.973e+00
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	414943	415106	E1	8.976e-03	2.579e+08	7.119e-03
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	414943	415106	M2	4.072e-11	1.170e+00	2.547e-01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	416493	416720	E1	1.726e-01	3.332e+09	1.363e-01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	416493	416720	M2	3.657e-10	7.060e+00	2.261e+00
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	523843	524155	E1	1.501e-02	1.375e+09	9.426e-03
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	523843	524155	M2	4.456e-11	4.083e+00	1.384e-01
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	559243	559572	E1	1.658e-01	1.732e+10	9.757e-02
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	559243	559572	M2	1.597e-10	1.667e+01	4.076e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	570063	570363	E1	4.303e-01	2.334e+10	2.484e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	570063	570363	M2	2.279e-10	1.237e+01	5.496e-01
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	11310	11234	M1	1.502e-06	3.161e+01	3.305e+00
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	11310	11234	E2	2.431e-13	5.115e-06	1.021e-03
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	25880	25847	E2	2.648e-11	1.966e-03	9.131e-03
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	195640	195967	M1	1.982e-08	1.270e+02	2.502e-03
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	195640	195967	E2	8.184e-11	5.241e-01	6.477e-05
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	197190	197580	E2	1.437e-11	6.235e-02	1.109e-05
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	350760	351224	M1	6.282e-09	1.292e+02	4.423e-04
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	350760	351224	E2	1.966e-11	4.043e-01	2.702e-06
$2p^3 \ ^4S_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	526960	527018	E1	1.002e-01	4.641e+09	6.259e-02
$2p^3 \ ^4S_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	526960	527018	M2	5.014e-11	2.322e+00	1.532e-01
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	626000	626371	E1	4.154e-06	2.718e+05	2.183e-06
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	626000	626371	M2	6.706e-10	4.387e+01	1.221e+00
$2p^3 \ ^2D_{5/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	629080	629496	M2	7.397e-11	3.259e+00	1.327e-01
$2p^3 \ ^2P_{1/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	730950	731467	E1	1.524e-04	2.719e+07	6.858e-05
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	737370	737943	E1	5.726e-06	5.199e+05	2.554e-06
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	737370	737943	M2	1.035e-11	9.395e-01	1.152e-02
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	14570	14612	M1	2.117e-06	5.025e+01	3.582e+00
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	14570	14612	E2	6.556e-12	1.556e-04	1.251e-02
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	185880	186346	M1	9.180e-08	3.544e+02	1.218e-02

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	185880	186346	E2	1.425e-10	5.503e-01	1.312e-04
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	293230	293781	M1	1.685e-07	4.851e+03	1.419e-02
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	293230	293781	E2	9.729e-13	2.801e-02	2.285e-07
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	328630	329198	M1	5.051e-08	1.825e+03	3.794e-03
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	328630	329198	E2	5.038e-11	1.821e+00	8.410e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	515650	515783	E1	1.940e-01	8.606e+09	1.238e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	515650	515783	M2	2.074e-10	9.203e+00	6.764e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	614690	615137	E1	1.319e-03	8.320e+07	7.057e-04
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	614690	615137	M2	5.655e-10	3.568e+01	1.087e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	617770	618261	E1	8.963e-05	3.809e+06	4.773e-05
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	617770	618261	M2	4.391e-10	1.866e+01	8.312e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	719640	720232	E1	2.869e-05	4.964e+06	1.312e-05
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	719640	720232	M2	3.654e-10	6.321e+01	4.375e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	726060	726709	E1	5.758e-04	5.071e+07	2.609e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	726060	726709	M2	6.398e-11	5.635e+00	7.458e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	169760	170120	M1	4.001e-08	1.931e+02	5.816e-03
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	169760	170120	E2	9.282e-11	4.479e-01	1.123e-04
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	278660	279168	E2	5.099e-11	1.325e+00	1.396e-05
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	314060	314585	E2	7.229e-11	2.386e+00	1.383e-05
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	324880	325376	M1	1.317e-08	2.326e+02	1.001e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	324880	325376	E2	2.994e-11	5.286e-01	5.177e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	501080	501170	E1	2.826e-01	1.184e+10	1.856e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	501080	501170	M2	3.236e-10	1.355e+01	1.150e+00
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	600120	600524	E1	6.841e-08	4.114e+03	3.750e-08
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	600120	600524	M2	2.746e-11	1.651e+00	5.672e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	603200	603649	E1	3.334e-03	1.350e+08	1.818e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	603200	603649	M2	7.167e-10	2.903e+01	1.458e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{5/2}$	705070	705620	M2	2.332e-10	3.872e+01	2.969e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	711490	712096	E1	2.860e-04	2.419e+07	1.322e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	711490	712096	M2	8.499e-10	7.187e+01	1.053e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	1550	1613	M1	1.549e-07	4.481e-02	2.374e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	1550	1613	E2	5.688e-15	1.645e-09	8.070e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	108900	109048	M1	9.842e-09	3.903e+01	2.232e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	108900	109048	E2	2.477e-09	9.825e+00	1.138e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	144300	144465	M1	4.225e-08	2.941e+02	7.232e-03
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	144300	144465	E2	1.942e-09	1.352e+01	3.836e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	331320	331050	E1	8.601e-05	1.572e+06	8.554e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	331320	331050	M2	1.030e-12	1.882e-02	1.270e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	430360	430404	E1	1.745e-01	5.391e+09	1.335e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	430360	430404	M2	4.880e-11	1.507e+00	2.738e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	433440	433528	E1	4.221e-02	8.819e+08	3.205e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	433440	433528	M2	2.515e-10	5.254e+00	1.381e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	535310	535499	E1	1.372e-01	1.312e+10	8.433e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	535310	535499	M2	4.140e-12	3.960e-01	1.206e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	541730	541976	E1	4.100e-02	2.008e+09	2.491e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	541730	541976	M2	4.160e-11	2.038e+00	1.169e-01
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	107350	107435	E2	3.627e-09	1.396e+01	1.742e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	142750	142852	E2	2.741e-09	1.866e+01	5.600e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	153570	153643	M1	1.099e-07	4.328e+02	1.769e-02
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	153570	153643	E2	1.155e-12	4.548e-03	1.897e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	329770	329437	E1	1.541e-05	2.789e+05	1.540e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	329770	329437	M2	2.866e-13	5.186e-03	3.586e-03
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	428810	428790	E1	5.432e-02	1.666e+09	4.171e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	428810	428790	M2	1.924e-10	5.900e+00	1.092e+00
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	431890	431915	E1	3.335e-01	6.917e+09	2.542e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	431890	431915	M2	3.374e-10	6.998e+00	1.874e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{5/2}$	533760	533886	M2	1.374e-10	1.306e+01	4.040e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	540180	540362	E1	1.846e-01	8.988e+09	1.125e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	540180	540362	M2	2.957e-10	1.440e+01	8.383e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	46220	46208	M1	6.677e-07	2.377e+02	3.573e-01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	46220	46208	E2	2.513e-11	8.947e-03	1.517e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	222420	222002	E1	1.776e-04	1.460e+06	2.633e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	222420	222002	M2	8.508e-12	6.992e-02	3.479e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	321460	321355	E1	6.450e-02	1.111e+09	6.607e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	321460	321355	M2	2.089e-12	3.598e-02	2.817e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2S _{1/2}	324540	324480	M2	8.067e-12	9.443e-02	1.056e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2S _{1/2}	426410	426451	E1	9.307e-06	5.645e+05	7.185e-06
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	432830	432927	E1	1.006e-01	3.145e+09	7.651e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	432830	432927	M2	2.238e-10	6.993e+00	1.234e+00
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	10820	10791	M1	4.216e-07	8.187e+00	9.661e-01
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	10820	10791	E2	1.528e-12	2.968e-05	7.243e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	187020	186585	E1	1.927e-04	1.119e+06	3.401e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	187020	186585	M2	8.991e-12	5.220e-02	6.192e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	286060	285938	E1	9.672e-02	1.319e+09	1.114e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	286060	285938	M2	2.560e-14	3.490e-04	4.898e-04
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{1/2}	289140	289063	M2	1.095e-11	1.017e-01	2.027e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{1/2}	391010	391034	E1	1.406e-01	7.170e+09	1.184e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	397430	397510	E1	2.736e-04	7.208e+06	2.266e-04
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	397430	397510	M2	5.074e-11	1.337e+00	3.614e-01
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	176200	175794	E1	6.404e-04	3.300e+06	1.199e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	176200	175794	M2	9.920e-12	5.112e-02	8.169e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{3/2}	275240	275147	E1	9.723e-03	1.228e+08	1.163e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{3/2}	275240	275147	M2	3.133e-12	3.956e-02	6.730e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{3/2}	278320	278272	E1	2.135e-01	1.838e+09	2.526e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{3/2}	278320	278272	M2	1.093e-11	9.407e-02	2.269e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{3/2}	380190	380243	E1	3.980e-02	1.919e+09	3.446e-02
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{3/2}	380190	380243	M2	3.519e-12	1.697e-01	2.863e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{3/2}	386610	386719	E1	3.024e-01	7.542e+09	2.575e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{3/2}	386610	386719	M2	3.245e-11	8.092e-01	2.510e-01
2p ³ 2D _{5/2} ^o	2p ³ 4S _{3/2} ^o	102120	102478	M1	4.010e-09	4.682e+00	9.677e-04
2p ³ 2D _{5/2} ^o	2p ³ 4S _{3/2} ^o	102120	102478	E2	6.264e-11	7.313e-02	3.466e-04
2p ³ 2P _{1/2} ^o	2p ³ 4S _{3/2} ^o	203990	204449	M1	9.890e-08	1.379e+03	1.196e-02
2p ³ 2P _{1/2} ^o	2p ³ 4S _{3/2} ^o	203990	204449	E2	5.299e-12	7.388e-02	3.693e-06
2p ³ 2D _{5/2} ^o	2p ³ 2D _{3/2} ^o	3080	3124	M1	2.916e-07	3.166e-01	2.308e+00
2p ³ 2D _{5/2} ^o	2p ³ 2D _{3/2} ^o	3080	3124	E2	7.194e-15	7.810e-09	1.404e-03
2p ³ 2P _{1/2} ^o	2p ³ 2D _{3/2} ^o	104950	105095	M1	2.069e-07	7.621e+02	4.868e-02
2p ³ 2P _{1/2} ^o	2p ³ 2D _{3/2} ^o	104950	105095	E2	3.139e-09	1.156e+01	1.611e-02
2p ³ 2P _{1/2} ^o	2p ³ 2D _{5/2} ^o	101870	101971	E2	2.024e-09	7.018e+00	1.137e-02
2p ³ 2P _{3/2} ^o	2p ³ 2D _{5/2} ^o	108290	108447	M1	3.958e-07	7.763e+02	9.026e-02
2p ³ 2P _{3/2} ^o	2p ³ 2D _{5/2} ^o	108290	108447	E2	8.029e-09	1.575e+01	3.750e-02
2p ³ 2P _{3/2} ^o	2p ³ 2P _{1/2} ^o	6420	6476	M1	3.326e-07	2.326e+00	1.270e+00
2p ³ 2P _{3/2} ^o	2p ³ 2P _{1/2} ^o	6420	6476	E2	3.764e-14	2.633e-07	8.254e-04
Ca XVI							
2s ² 2p 2P _{3/2} ^o	2s ² 2p 2P _{1/2} ^o	36520	36627	M1	1.970e-06	4.408e+02	1.330e+00
2s ² 2p 2P _{3/2} ^o	2s ² 2p 2P _{1/2} ^o	36520	36627	E2	5.662e-11	1.267e-02	6.862e-03
2s2p ² 4P _{1/2}	2s ² 2p 2P _{1/2} ^o	267990	267772	E1	3.166e-04	7.572e+06	3.893e-04
2s2p ² 4P _{3/2}	2s ² 2p 2P _{1/2} ^o	282500	282287	E1	1.353e-05	1.798e+05	1.578e-05
2s2p ² 4P _{3/2}	2s ² 2p 2P _{1/2} ^o	282500	282287	M2	7.889e-11	1.048e+00	1.569e+00
2s2p ² 4P _{5/2}	2s ² 2p 2P _{1/2} ^o	300800	300575	M2	6.727e-11	6.756e-01	1.108e+00
2s2p ² 2D _{3/2}	2s ² 2p 2P _{1/2} ^o	479420	479568	E1	1.167e-01	4.474e+09	8.008e-02
2s2p ² 2D _{3/2}	2s ² 2p 2P _{1/2} ^o	479420	479568	M2	7.944e-12	3.047e-01	3.222e-02
2s2p ² 2D _{5/2}	2s ² 2p 2P _{1/2} ^o	481860	482142	M2	3.722e-10	9.619e+00	1.486e+00
2s2p ² 2S _{1/2}	2s ² 2p 2P _{1/2} ^o	592180	592488	E1	1.638e-01	1.917e+10	9.099e-02
2s2p ² 2P _{1/2}	2s ² 2p 2P _{1/2} ^o	633760	634191	E1	4.082e-02	5.475e+09	2.119e-02
2s2p ² 2P _{3/2}	2s ² 2p 2P _{1/2} ^o	645660	646054	E1	6.423e-02	4.471e+09	3.273e-02
2s2p ² 2P _{3/2}	2s ² 2p 2P _{1/2} ^o	645660	646054	M2	6.428e-11	4.474e+00	1.066e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	231470	231144	E1	1.858e-04	3.311e+06	2.646e-04
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	231470	231144	M2	5.643e-12	1.005e-01	2.044e-01
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	245980	245659	E1	1.207e-04	1.215e+06	1.618e-04
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	245980	245659	M2	2.523e-12	2.539e-02	7.615e-02
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	264280	263948	E1	8.101e-04	6.274e+06	1.010e-03
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	264280	263948	M2	1.052e-10	8.147e-01	2.559e+00
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	442900	442940	E1	7.158e-03	2.342e+08	5.320e-03
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	442900	442940	M2	4.215e-11	1.379e+00	2.170e-01
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	445340	445515	E1	1.645e-01	3.629e+09	1.215e-01
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	445340	445515	M2	4.087e-10	9.018e+00	2.067e+00
$2s2p^2\ ^2S_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	555660	555861	E1	8.054e-03	8.299e+08	4.770e-03
$2s2p^2\ ^2S_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	555660	555861	M2	3.727e-11	3.840e+00	9.707e-02
$2s2p^2\ ^2P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	597240	597564	E1	1.639e-01	1.952e+10	9.032e-02
$2s2p^2\ ^2P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	597240	597564	M2	1.893e-10	2.254e+01	3.969e-01
$2s2p^2\ ^2P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	609140	609426	E1	4.124e-01	2.554e+10	2.228e-01
$2s2p^2\ ^2P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	609140	609426	M2	2.534e-10	1.570e+01	5.010e-01
$2s2p^2\ ^4P_{3/2}$	$2s2p^2\ ^4P_{1/2}$	14510	14515	M1	1.935e-06	6.798e+01	3.296e+00
$2s2p^2\ ^4P_{3/2}$	$2s2p^2\ ^4P_{1/2}$	14510	14515	E2	4.138e-13	1.454e-05	8.058e-04
$2s2p^2\ ^4P_{5/2}$	$2s2p^2\ ^4P_{1/2}$	32810	32803	E2	4.271e-11	5.109e-03	7.206e-03
$2s2p^2\ ^2D_{3/2}$	$2s2p^2\ ^4P_{1/2}$	211430	211796	M1	2.906e-08	2.174e+02	3.393e-03
$2s2p^2\ ^2D_{3/2}$	$2s2p^2\ ^4P_{1/2}$	211430	211796	E2	1.140e-10	8.528e-01	7.146e-05
$2s2p^2\ ^2D_{5/2}$	$2s2p^2\ ^4P_{1/2}$	213870	214370	E2	1.855e-11	9.477e-02	1.122e-05
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^4P_{1/2}$	377670	378282	M1	9.066e-09	2.163e+02	5.927e-04
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^4P_{1/2}$	377670	378282	E2	2.493e-11	5.948e-01	2.743e-06
$2p^3\ ^4S_{3/2}$	$2s2p^2\ ^4P_{1/2}$	566870	566989	E1	9.620e-02	5.157e+09	5.586e-02
$2p^3\ ^4S_{3/2}$	$2s2p^2\ ^4P_{1/2}$	566870	566989	M2	6.115e-11	3.278e+00	1.501e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^4P_{1/2}$	672010	672384	E1	1.569e-06	1.183e+05	7.685e-07
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^4P_{1/2}$	672010	672384	M2	7.345e-10	5.538e+01	1.081e+00
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^4P_{1/2}$	676710	677232	M2	8.025e-11	4.092e+00	1.156e-01
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^4P_{1/2}$	784710	785240	E1	1.914e-04	3.935e+07	8.023e-05
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^4P_{1/2}$	794040	794702	E1	8.156e-06	8.589e+05	3.378e-06
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^4P_{1/2}$	794040	794702	M2	7.002e-12	7.374e-01	6.241e-03
$2s2p^2\ ^4P_{5/2}$	$2s2p^2\ ^4P_{3/2}$	18300	18288	M1	2.644e-06	9.833e+01	3.575e+00
$2s2p^2\ ^4P_{5/2}$	$2s2p^2\ ^4P_{3/2}$	18300	18288	E2	1.006e-11	3.742e-04	9.799e-03
$2s2p^2\ ^2D_{5/2}$	$2s2p^2\ ^4P_{3/2}$	199360	199855	M1	1.431e-07	6.355e+02	1.771e-02
$2s2p^2\ ^2D_{5/2}$	$2s2p^2\ ^4P_{3/2}$	199360	199855	E2	1.965e-10	8.723e-01	1.466e-04
$2s2p^2\ ^2S_{1/2}$	$2s2p^2\ ^4P_{3/2}$	309680	310201	M1	2.294e-07	7.363e+03	1.829e-02
$2s2p^2\ ^2S_{1/2}$	$2s2p^2\ ^4P_{3/2}$	309680	310201	E2	2.725e-12	8.745e-02	5.437e-07
$2s2p^2\ ^2P_{1/2}$	$2s2p^2\ ^4P_{3/2}$	351260	351904	M1	9.406e-08	3.885e+03	6.610e-03
$2s2p^2\ ^2P_{1/2}$	$2s2p^2\ ^4P_{3/2}$	351260	351904	E2	6.508e-11	2.688e+00	8.894e-06
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	552360	552474	E1	1.846e-01	9.395e+09	1.100e-01
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	552360	552474	M2	2.245e-10	1.143e+01	5.957e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	657500	657868	E1	1.972e-03	1.423e+08	9.870e-04
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	657500	657868	M2	6.114e-10	4.413e+01	9.607e-01
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^4P_{3/2}$	662200	662717	E1	1.173e-04	5.728e+06	5.828e-05
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^4P_{3/2}$	662200	662717	M2	4.821e-10	2.354e+01	7.410e-01
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^4P_{3/2}$	770200	770725	E1	3.724e-05	7.378e+06	1.591e-05
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^4P_{3/2}$	770200	770725	M2	4.016e-10	7.956e+01	3.924e-01
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	779530	780187	E1	7.035e-04	7.141e+07	2.968e-04
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	779530	780187	M2	7.836e-11	7.954e+00	7.382e-02
$2s2p^2\ ^2D_{3/2}$	$2s2p^2\ ^4P_{5/2}$	178620	178992	M1	6.253e-08	3.341e+02	8.639e-03
$2s2p^2\ ^2D_{3/2}$	$2s2p^2\ ^4P_{5/2}$	178620	178992	E2	1.190e-10	6.358e-01	1.236e-04
$2s2p^2\ ^2S_{1/2}$	$2s2p^2\ ^4P_{5/2}$	291380	291912	E2	5.824e-11	1.655e+00	1.394e-05
$2s2p^2\ ^2P_{1/2}$	$2s2p^2\ ^4P_{5/2}$	332960	333615	E2	1.193e-10	4.430e+00	1.914e-05
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^4P_{5/2}$	344860	345478	M1	1.747e-08	3.478e+02	1.251e-03
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^4P_{5/2}$	344860	345478	E2	4.563e-11	9.082e-01	6.590e-06
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	534060	534185	E1	2.681e-01	1.276e+10	1.652e-01
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	534060	534185	M2	3.399e-10	1.617e+01	9.975e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	639200	639580	E1	5.320e-06	3.629e+05	2.738e-06

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	639200	639580	M2	1.631e-11	1.112e+00	2.789e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	643900	644428	E1	4.519e-03	2.086e+08	2.309e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	643900	644428	M2	8.000e-10	3.694e+01	1.337e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{5/2}$	751900	752436	M2	2.623e-10	4.953e+01	2.755e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	761230	761898	E1	3.605e-04	3.490e+07	1.558e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	761230	761898	M2	9.425e-10	9.124e+01	9.534e-01
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	2440	2574	M1	2.462e-07	1.814e-01	2.365e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	2440	2574	E2	1.812e-14	1.336e-08	6.323e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	112760	112920	M1	1.782e-08	7.577e+01	3.902e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	112760	112920	E2	2.002e-09	8.514e+00	8.281e-03
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	154340	154623	M1	5.783e-08	4.611e+02	9.248e-03
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	154340	154623	E2	2.276e-09	1.815e+01	3.666e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	355440	355193	E1	1.614e-04	3.395e+06	1.496e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	355440	355193	M2	1.488e-12	3.130e-02	1.486e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	460580	460587	E1	1.604e-01	5.676e+09	1.147e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	460580	460587	M2	5.253e-11	1.858e+00	2.405e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	465280	465436	E1	4.403e-02	1.060e+09	3.114e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	465280	465436	M2	2.766e-10	6.661e+00	1.227e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	573280	573444	E1	1.329e-01	1.458e+10	7.630e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	573280	573444	M2	4.086e-12	4.481e-01	9.693e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	582610	582906	E1	4.114e-02	2.331e+09	2.323e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	582610	582906	M2	4.822e-11	2.732e+00	1.089e-01
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	110320	110345	E2	2.814e-09	1.143e+01	1.247e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	151900	152048	E2	3.331e-09	2.569e+01	5.644e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	163800	163911	M1	1.645e-07	7.369e+02	2.481e-02
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	163800	163911	E2	4.155e-14	1.862e-04	5.620e-08
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	353000	352618	E1	2.395e-05	4.965e+05	2.236e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	353000	352618	M2	4.844e-13	1.004e-02	4.943e-03
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	458140	458013	E1	5.708e-02	1.997e+09	4.103e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	458140	458013	M2	1.971e-10	6.894e+00	9.177e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	462840	462861	E1	3.179e-01	7.571e+09	2.261e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	462840	462861	M2	3.593e-10	8.558e+00	1.621e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{5/2}$	570840	570869	M2	1.465e-10	1.592e+01	3.522e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	580170	580331	E1	1.694e-01	9.516e+09	9.612e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	580170	580331	M2	3.632e-10	2.040e+01	8.314e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	53480	53565	M1	9.706e-07	4.644e+02	4.481e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	53480	53565	E2	3.892e-11	1.862e-02	1.508e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	242680	242272	E1	3.167e-04	3.100e+06	4.304e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	242680	242272	M2	1.229e-11	1.203e-01	3.867e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	347820	347667	E1	7.900e-02	1.592e+09	7.481e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	347820	347667	M2	2.636e-12	5.312e-02	2.806e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2S_{1/2}$	352520	352515	M2	1.130e-11	1.561e-01	1.154e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2S_{1/2}$	460520	460523	E1	9.745e-04	6.893e+07	6.966e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	469850	469985	E1	8.993e-02	3.312e+09	6.299e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	469850	469985	M2	2.246e-10	8.272e+00	9.678e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	11900	11862	M1	4.182e-07	9.813e+00	8.717e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	11900	11862	E2	1.531e-12	3.593e-05	5.462e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	201100	200569	E1	2.478e-04	1.663e+06	4.068e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	201100	200569	M2	8.511e-12	5.710e-02	4.719e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	306240	305964	E1	8.095e-02	1.264e+09	8.710e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	306240	305964	M2	2.029e-13	3.167e-03	3.169e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{1/2}$	310940	310812	M2	1.064e-11	1.143e-01	1.585e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{1/2}$	418940	418820	E1	1.332e-01	7.793e+09	1.047e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	428270	428283	E1	2.476e-03	7.573e+07	1.903e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	428270	428283	M2	7.427e-11	2.272e+00	4.229e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	189200	188707	E1	8.346e-04	4.956e+06	1.456e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	189200	188707	M2	1.048e-11	6.226e-02	6.980e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	294340	294101	E1	7.626e-03	1.100e+08	8.537e-03

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	294340	294101	M2	3.748e-12	5.407e-02	6.592e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	299040	298950	E1	2.026e-01	2.013e+09	2.231e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	299040	298950	M2	1.113e-11	1.106e-01	1.864e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	407040	406958	E1	3.611e-02	1.994e+09	2.921e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	407040	406958	M2	3.843e-12	2.123e-01	2.551e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	416370	416420	E1	2.958e-01	8.554e+09	2.339e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	416370	416420	M2	3.735e-11	1.080e+00	2.314e-01
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	109840	110243	M1	8.298e-09	1.121e+01	1.861e-03
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	109840	110243	E2	8.727e-11	1.179e-01	3.879e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	217840	218251	M1	1.498e-07	2.379e+03	1.697e-02
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	217840	218251	E2	1.112e-11	1.766e-01	6.370e-06
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	4700	4848	M1	4.462e-07	1.166e+00	2.276e+00
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	4700	4848	E2	2.818e-14	7.364e-08	1.472e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	112700	112856	M1	2.944e-07	1.251e+03	6.451e-02
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	112700	112856	E2	3.021e-09	1.283e+01	1.252e-02
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{5/2}^o$	108000	108007	E2	1.899e-09	7.390e+00	8.978e-03
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	117330	117470	M1	5.750e-07	1.323e+03	1.210e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	117330	117470	E2	7.916e-09	1.821e+01	2.908e-02
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	9330	9462	M1	4.779e-07	7.135e+00	1.249e+00
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	9330	9462	E2	1.189e-13	1.775e-06	8.360e-04
Sc XVII							
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	45637	45649	M1	2.455e-06	8.531e+02	1.330e+00
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	45637	45649	E2	8.780e-11	3.051e-02	5.497e-03
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p \ ^2P_{1/2}^o$	288250	288238	E1	4.258e-04	1.180e+07	4.863e-04
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p \ ^2P_{1/2}^o$	306780	306788	E1	1.778e-05	2.791e+05	1.909e-05
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p \ ^2P_{1/2}^o$	306780	306788	M2	9.060e-11	1.422e+00	1.404e+00
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p \ ^2P_{1/2}^o$	329320	329338	M2	8.220e-11	9.912e-01	1.030e+00
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p \ ^2P_{1/2}^o$	516640	516810	E1	1.157e-01	5.154e+09	7.371e-02
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p \ ^2P_{1/2}^o$	516640	516810	M2	7.826e-12	3.486e-01	2.536e-02
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p \ ^2P_{1/2}^o$	520630	520762	M2	4.047e-10	1.220e+01	1.282e+00
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p \ ^2P_{1/2}^o$	632370	632725	E1	1.659e-01	2.216e+10	8.635e-02
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p \ ^2P_{1/2}^o$	682220	682573	E1	2.949e-02	4.582e+09	1.422e-02
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p \ ^2P_{1/2}^o$	694950	695279	E1	5.897e-02	4.754e+09	2.792e-02
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p \ ^2P_{1/2}^o$	694950	695279	M2	7.057e-11	5.689e+00	9.393e-02
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p \ ^2P_{3/2}^o$	242613	242588	E1	2.308e-04	4.530e+06	3.132e-04
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p \ ^2P_{3/2}^o$	242613	242588	M2	5.654e-12	1.110e-01	1.772e-01
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p \ ^2P_{3/2}^o$	261143	261138	E1	1.557e-04	1.770e+06	1.962e-04
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p \ ^2P_{3/2}^o$	261143	261138	M2	2.598e-12	2.954e-02	6.526e-02
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p \ ^2P_{3/2}^o$	283683	283688	E1	1.103e-03	9.867e+06	1.280e-03
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p \ ^2P_{3/2}^o$	283683	283688	M2	1.126e-10	1.007e+00	2.206e+00
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p \ ^2P_{3/2}^o$	471003	471160	E1	5.512e-03	2.041e+08	3.851e-03
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p \ ^2P_{3/2}^o$	471003	471160	M2	4.324e-11	1.601e+00	1.849e-01
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p \ ^2P_{3/2}^o$	474993	475112	E1	1.571e-01	3.943e+09	1.089e-01
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p \ ^2P_{3/2}^o$	474993	475112	M2	4.579e-10	1.149e+01	1.910e+00
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p \ ^2P_{3/2}^o$	586733	587075	E1	3.782e-03	4.347e+08	2.121e-03
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p \ ^2P_{3/2}^o$	586733	587075	M2	3.085e-11	3.546e+00	6.820e-02
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p \ ^2P_{3/2}^o$	636583	636923	E1	1.604e-01	2.170e+10	8.289e-02
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p \ ^2P_{3/2}^o$	636583	636923	M2	2.205e-10	2.984e+01	3.818e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p \ ^2P_{3/2}^o$	649313	649629	E1	3.968e-01	2.792e+10	2.011e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p \ ^2P_{3/2}^o$	649313	649629	M2	2.818e-10	1.983e+01	4.598e-01
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	18530	18550	M1	2.464e-06	1.414e+02	3.285e+00
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	18530	18550	E2	6.913e-13	3.967e-05	6.450e-04
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	41070	41100	E2	6.723e-11	1.263e-02	5.767e-03
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	228390	228572	M1	4.158e-08	3.622e+02	4.498e-03
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	228390	228572	E2	1.568e-10	1.366e+00	7.821e-05
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	232380	232524	E2	2.340e-11	1.406e-01	1.108e-05
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	406700	407041	M1	1.271e-08	3.512e+02	7.723e-04

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	406700	407041	E2	3.095e-11	8.550e-01	2.733e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	608670	608792	E1	9.279e-02	5.735e+09	5.018e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	608670	608792	M2	7.579e-11	4.684e+00	1.503e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	719840	719984	E1	2.057e-11	1.778e+00	9.404e-12
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	719840	719984	M2	8.015e-10	6.928e+01	9.607e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{1/2}$	727000	727164	M2	8.692e-11	5.109e+00	1.011e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{1/2}$	840790	841179	E1	2.348e-04	5.542e+07	9.190e-05
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	854290	854670	E1	1.123e-05	1.368e+06	4.325e-06
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	854290	854670	M2	4.005e-12	4.879e-01	2.870e-03
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	22540	22550	M1	3.252e-06	1.839e+02	3.566e+00
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	22540	22550	E2	1.495e-11	8.451e-04	7.764e-03
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	213850	213974	M1	2.188e-07	1.114e+03	2.529e-02
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	213850	213974	E2	2.676e-10	1.362e+00	1.627e-04
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	325590	325937	M1	3.048e-07	1.080e+04	2.312e-02
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	325590	325937	E2	5.682e-12	2.013e-01	9.774e-07
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	375440	375785	M1	1.615e-07	7.608e+03	1.063e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	375440	375785	E2	8.250e-11	3.885e+00	9.259e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	590140	590241	E1	1.760e-01	1.022e+10	9.816e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	590140	590241	M2	2.410e-10	1.400e+01	5.243e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	701310	701434	E1	2.908e-03	2.386e+08	1.365e-03
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	701310	701434	M2	6.623e-10	5.434e+01	8.586e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	708470	708614	E1	1.506e-04	8.408e+06	6.997e-05
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	708470	708614	M2	5.294e-10	2.955e+01	6.656e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	822260	822629	E1	4.748e-05	1.072e+07	1.900e-05
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	822260	822629	M2	4.412e-10	9.958e+01	3.546e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	835760	836120	E1	8.357e-04	9.743e+07	3.291e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	835760	836120	M2	9.507e-11	1.108e+01	7.276e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	187320	187471	M1	9.560e-08	5.603e+02	1.261e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	187320	187471	E2	1.494e-10	8.757e-01	1.351e-04
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	303050	303386	E2	6.451e-11	1.980e+00	1.376e-05
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	352900	353234	E2	1.882e-10	7.832e+00	2.543e-05
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	365630	365940	M1	2.209e-08	4.933e+02	1.493e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	365630	365940	E2	6.830e-11	1.525e+00	8.301e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	567600	567691	E1	2.551e-01	1.371e+10	1.479e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	567600	567691	M2	3.544e-10	1.905e+01	8.666e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	678770	678883	E1	3.464e-05	2.662e+06	1.680e-05
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	678770	678883	M2	6.773e-12	5.205e-01	9.684e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	685930	686063	E1	6.034e-03	3.158e+08	2.896e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	685930	686063	M2	8.950e-10	4.683e+01	1.240e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{5/2}$	799720	800078	M2	2.957e-10	6.313e+01	2.583e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	813220	813569	E1	4.394e-04	4.850e+07	1.778e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	813220	813569	M2	1.039e-09	1.147e+02	8.632e-01
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	3990	3952	M1	3.759e-07	6.527e-01	2.352e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	3990	3952	E2	5.191e-14	9.014e-08	5.008e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	115730	115914	M1	2.953e-08	1.323e+02	6.299e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	115730	115914	E2	1.601e-09	7.173e+00	6.121e-03
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	165580	165762	M1	7.739e-08	7.092e+02	1.154e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	165580	165762	E2	2.582e-09	2.366e+01	3.377e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	380280	380219	E1	2.910e-04	7.015e+06	2.520e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	380280	380219	M2	2.081e-12	5.017e-02	1.694e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	491450	491412	E1	1.475e-01	5.941e+09	9.884e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	491450	491412	M2	5.671e-11	2.284e+00	2.138e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	498610	498592	E1	4.627e-02	1.279e+09	3.055e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	498610	498592	M2	3.043e-10	8.410e+00	1.098e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	612400	612606	E1	1.294e-01	1.619e+10	6.952e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	612400	612606	M2	3.971e-12	4.971e-01	7.728e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	625900	626097	E1	4.110e-02	2.687e+09	2.161e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	625900	626097	M2	5.570e-11	3.641e+00	1.015e-01
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	111740	111962	E2	2.124e-09	8.881e+00	9.014e-03

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2\ ^2P_{1/2}$	$2s2p^2\ ^2D_{5/2}$	161590	161810	E2	3.861e-09	3.371e+01	5.428e-03
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^2D_{5/2}$	174320	174516	M1	2.400e-07	1.219e+03	3.401e-02
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^2D_{5/2}$	174320	174516	E2	2.172e-12	1.103e-02	2.434e-06
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	376290	376267	E1	3.757e-05	8.871e+05	3.288e-05
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	376290	376267	M2	8.024e-13	1.894e-02	6.738e-03
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	487460	487459	E1	5.983e-02	2.371e+09	4.041e-02
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	487460	487459	M2	1.994e-10	7.900e+00	7.700e-01
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2D_{5/2}$	494620	494639	E1	3.036e-01	8.258e+09	2.021e-01
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2D_{5/2}$	494620	494639	M2	3.800e-10	1.034e+01	1.405e+00
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2D_{5/2}$	608410	608654	M2	1.551e-10	1.917e+01	3.078e-01
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	621910	622145	E1	1.556e-01	1.005e+10	8.235e-02
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	621910	622145	M2	4.464e-10	2.881e+01	8.293e-01
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^2S_{1/2}$	62580	62554	M1	1.346e-06	8.786e+02	5.323e-01
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^2S_{1/2}$	62580	62554	E2	5.869e-11	3.829e-02	1.428e-03
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	264550	264304	E1	5.408e-04	6.299e+06	6.736e-04
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	264550	264304	M2	1.698e-11	1.978e-01	4.114e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	375720	375497	E1	9.211e-02	2.166e+09	8.076e-02
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	375720	375497	M2	3.032e-12	7.128e-02	2.562e-02
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2S_{1/2}$	382880	382677	M2	1.520e-11	2.474e-01	1.213e-01
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2S_{1/2}$	496670	496692	E1	3.038e-03	2.499e+08	2.013e-03
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	510170	510182	E1	7.868e-02	3.415e+09	5.077e-02
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	510170	510182	M2	2.242e-10	9.730e+00	7.552e-01
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^2P_{1/2}$	12730	12706	M1	4.024e-07	1.083e+01	7.831e-01
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^2P_{1/2}$	12730	12706	E2	1.444e-12	3.887e-05	4.192e-03
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	214700	214456	E1	3.130e-04	2.400e+06	4.805e-04
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	214700	214456	M2	7.848e-12	6.019e-02	3.560e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	325870	325649	E1	6.679e-02	1.181e+09	6.752e-02
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	325870	325649	M2	6.103e-13	1.079e-02	7.906e-03
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{1/2}$	333030	332829	M2	1.022e-11	1.258e-01	1.240e-01
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{1/2}$	446820	446844	E1	1.254e-01	8.351e+09	9.239e-02
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	460320	460335	E1	6.110e-03	2.159e+08	4.370e-03
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	460320	460335	M2	1.011e-10	3.573e+00	4.637e-01
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	201970	201750	E1	1.063e-03	7.219e+06	1.735e-03
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	201970	201750	M2	1.095e-11	7.432e-02	5.965e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	313140	312943	E1	5.875e-03	9.594e+07	6.180e-03
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	313140	312943	M2	4.503e-12	7.353e-02	6.573e-02
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{3/2}$	320300	320123	E1	1.925e-01	2.193e+09	1.979e-01
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{3/2}$	320300	320123	M2	1.123e-11	1.279e-01	1.531e-01
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{3/2}$	434090	434137	E1	3.263e-02	2.051e+09	2.474e-02
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{3/2}$	434090	434137	M2	4.173e-12	2.623e-01	2.281e-02
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	447590	447628	E1	2.904e-01	9.702e+09	2.135e-01
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	447590	447628	M2	4.330e-11	1.447e+00	2.160e-01
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^4S_{3/2}^o$	118330	118372	M1	1.655e-08	2.578e+01	3.457e-03
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^4S_{3/2}^o$	118330	118372	E2	1.204e-10	1.876e-01	4.324e-04
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^4S_{3/2}^o$	232120	232387	M1	2.223e-07	4.004e+03	2.366e-02
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^4S_{3/2}^o$	232120	232387	E2	2.191e-11	3.946e-01	1.040e-05
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^2D_{3/2}^o$	7160	7179	M1	6.499e-07	3.724e+00	2.238e+00
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^2D_{3/2}^o$	7160	7179	E2	9.359e-14	5.364e-07	1.506e-03
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{3/2}^o$	120950	121194	M1	4.037e-07	1.977e+03	8.237e-02
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{3/2}^o$	120950	121194	E2	2.939e-09	1.440e+01	9.834e-03
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{5/2}^o$	113790	114014	E2	1.788e-09	7.752e+00	7.185e-03
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2D_{5/2}^o$	127290	127505	M1	8.098e-07	2.195e+03	1.570e-01
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2D_{5/2}^o$	127290	127505	E2	7.929e-09	2.150e+01	2.278e-02
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2P_{1/2}^o$	13500	13490	M1	6.678e-07	2.027e+01	1.224e+00
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2P_{1/2}^o$	13500	13490	E2	3.455e-13	1.048e-05	8.380e-04
Ti XVIII							
$2s^22p\ ^2P_{3/2}^o$	$2s^22p\ ^2P_{1/2}^o$	56240	56255	M1	3.024e-06	1.596e+03	1.329e+00

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s^2 2p^2 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^2P_{1/2}^o$	56240	56255	E2	1.332e-10	7.026e-02	4.454e-03
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	309980	309599	E1	5.642e-04	1.804e+07	5.999e-04
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	333170	333077	E1	2.303e-05	4.260e+05	2.276e-05
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	333170	333077	M2	1.043e-10	1.930e+00	1.263e+00
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	360960	360502	M2	1.011e-10	1.460e+00	9.649e-01
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	555860	556035	E1	1.153e-01	5.946e+09	6.829e-02
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	555860	556035	M2	7.572e-12	3.904e-01	1.970e-02
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	561700	561914	M2	4.389e-10	1.541e+01	1.107e+00
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	673680	674036	E1	1.660e-01	2.515e+10	8.107e-02
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	733750	734078	E1	2.133e-02	3.833e+09	9.566e-03
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	747070	747400	E1	5.404e-02	5.034e+09	2.380e-02
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	747070	747400	M2	7.740e-11	7.210e+00	8.294e-02
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	253740	253344	E1	2.804e-04	6.001e+06	3.643e-04
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	253740	253344	M2	5.597e-12	1.198e-01	1.540e-01
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	276930	276822	E1	1.970e-04	2.517e+06	2.343e-04
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	276930	276822	M2	2.657e-12	3.396e-02	5.604e-02
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	304720	304247	E1	1.481e-03	1.524e+07	1.602e-03
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	304720	304247	M2	1.198e-10	1.232e+00	1.902e+00
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	499620	499780	E1	4.055e-03	1.689e+08	2.671e-03
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	499620	499780	M2	4.397e-11	1.831e+00	1.576e-01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	505460	505658	E1	1.505e-01	4.277e+09	9.796e-02
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	505460	505658	M2	5.149e-10	1.463e+01	1.782e+00
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	617440	617780	E1	1.434e-03	1.825e+08	7.639e-04
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	617440	617780	M2	2.557e-11	3.255e+00	4.852e-02
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	677510	677823	E1	1.557e-01	2.386e+10	7.564e-02
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	677510	677823	M2	2.535e-10	3.884e+01	3.642e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	690830	691144	E1	3.832e-01	3.052e+10	1.825e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	690830	691144	M2	3.134e-10	2.497e+01	4.247e-01
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	23190	23478	M1	3.106e-06	2.855e+02	3.271e+00
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	23190	23478	E2	1.136e-12	1.044e-04	5.227e-04
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	50980	50903	E2	1.035e-10	2.982e-02	4.675e-03
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	245880	246436	M1	5.821e-08	5.895e+02	5.841e-03
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	245880	246436	E2	2.134e-10	2.161e+00	8.491e-05
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	251720	252315	E2	2.883e-11	2.041e-01	1.069e-05
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	437090	437800	M1	1.734e-08	5.543e+02	9.796e-04
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	437090	437800	E2	3.766e-11	1.204e+00	2.673e-06
$2p^3 \ ^4S_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	652120	652609	E1	8.991e-02	6.385e+09	4.535e-02
$2p^3 \ ^4S_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	652120	652609	M2	9.553e-11	6.784e+00	1.538e-01
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	768820	769389	E1	3.422e-06	3.378e+05	1.464e-06
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	768820	769389	M2	8.708e-10	8.596e+01	8.553e-01
$2p^3 \ ^2D_{5/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	778920	779607	M2	9.399e-11	6.351e+00	8.874e-02
$2p^3 \ ^2P_{1/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	898820	899598	E1	2.818e-04	7.606e+07	1.031e-04
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	917720	918394	E1	1.488e-05	2.093e+06	5.335e-06
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	917720	918394	M2	1.694e-12	2.382e-01	9.782e-04
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	27790	27425	M1	3.942e-06	3.296e+02	3.554e+00
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	27790	27425	E2	2.152e-11	1.799e-03	6.213e-03
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	228530	228836	M1	3.287e-07	1.914e+03	3.552e-02
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	228530	228836	E2	3.609e-10	2.101e+00	1.794e-04
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	340510	340958	M1	3.978e-07	1.542e+04	2.885e-02
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	340510	340958	E2	9.988e-12	3.872e-01	1.501e-06
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	400580	401001	M1	2.597e-07	1.393e+04	1.602e-02
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	400580	401001	E2	1.031e-10	5.531e+00	9.526e-06
$2p^3 \ ^4S_{3/2}^o$	$2s^2 2p^2 \ ^4P_{3/2}$	628930	629131	E1	1.680e-01	1.109e+10	8.791e-02
$2p^3 \ ^4S_{3/2}^o$	$2s^2 2p^2 \ ^4P_{3/2}$	628930	629131	M2	2.561e-10	1.691e+01	4.602e-01
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{3/2}$	745630	745911	E1	4.223e-03	3.919e+08	1.864e-03
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{3/2}$	745630	745911	M2	7.201e-10	6.681e+01	7.762e-01
$2p^3 \ ^2D_{5/2}^o$	$2s^2 2p^2 \ ^4P_{3/2}$	755730	756129	E1	1.900e-04	1.208e+07	8.273e-05
$2p^3 \ ^2D_{5/2}^o$	$2s^2 2p^2 \ ^4P_{3/2}$	755730	756129	M2	5.816e-10	3.697e+01	6.019e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	875630	876120	E1	5.955e-05	1.525e+07	2.238e-05
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	875630	876120	M2	4.849e-10	1.241e+02	3.226e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	894530	894916	E1	9.666e-04	1.291e+08	3.556e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	894530	894916	M2	1.140e-10	1.523e+01	7.117e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	194900	195532	M1	1.431e-07	9.121e+02	1.809e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	194900	195532	E2	1.839e-10	1.172e+00	1.465e-04
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	312720	313533	E2	6.981e-11	2.289e+00	1.349e-05
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	372790	373575	E2	2.859e-10	1.331e+01	3.267e-05
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	386110	386897	M1	2.653e-08	6.621e+02	1.695e-03
$2s2p^2 \ ^2F_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	386110	386897	E2	1.006e-10	2.511e+00	1.035e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	601140	601705	E1	2.433e-01	1.469e+10	1.331e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	601140	601705	M2	3.666e-10	2.213e+01	7.529e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	717840	718486	E1	1.131e-04	9.740e+06	5.185e-05
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	717840	718486	M2	8.740e-13	7.524e-02	1.054e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	727940	728704	E1	7.946e-03	4.691e+08	3.590e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	727940	728704	M2	1.004e-09	5.925e+01	1.160e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{5/2}$	847840	848694	M2	3.342e-10	8.028e+01	2.446e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	866740	867491	E1	5.173e-04	6.491e+07	1.963e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	866740	867491	M2	1.138e-09	1.428e+02	7.796e-01
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	5840	5878	M1	5.552e-07	2.133e+00	2.335e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	5840	5878	E2	1.365e-13	5.246e-07	4.002e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	117820	118000	M1	4.545e-08	2.111e+02	9.526e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	117820	118000	E2	1.272e-09	5.905e+00	4.609e-03
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	177890	178042	M1	1.019e-07	1.077e+03	1.415e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	177890	178042	E2	2.863e-09	3.027e+01	3.022e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	406240	406173	E1	5.054e-04	1.390e+07	4.097e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	406240	406173	M2	2.816e-12	7.748e-02	1.880e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	522940	522953	E1	1.358e-01	6.192e+09	8.548e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	522940	522953	M2	6.155e-11	2.807e+00	1.925e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	533040	533171	E1	4.890e-02	1.546e+09	3.020e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	533040	533171	M2	3.351e-10	1.059e+01	9.890e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	652940	653162	E1	1.264e-01	1.799e+10	6.372e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	652940	653162	M2	3.798e-12	5.405e-01	6.098e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	671840	671958	E1	4.078e-02	3.070e+09	1.998e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	671840	671958	M2	6.404e-11	4.822e+00	9.443e-02
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	111980	112122	E2	1.561e-09	6.544e+00	6.596e-03
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	172050	172164	E2	4.321e-09	4.271e+01	5.043e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	185370	185485	M1	3.423e-07	1.964e+03	4.563e-02
$2s2p^2 \ ^2F_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	185370	185485	E2	7.486e-12	4.295e-02	6.986e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	400400	400294	E1	5.935e-05	1.586e+06	4.881e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	400400	400294	M2	1.301e-12	3.476e-02	9.073e-03
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	517100	517074	E1	6.243e-02	2.783e+09	3.975e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	517100	517074	M2	1.991e-10	8.877e+00	6.443e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	527200	527292	E1	2.904e-01	8.977e+09	1.813e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	527200	527292	M2	3.989e-10	1.233e+01	1.217e+00
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{5/2}$	647100	647283	M2	1.632e-10	2.280e+01	2.692e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	666000	666080	E1	1.431e-01	1.059e+10	7.075e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	666000	666080	M2	5.481e-10	4.055e+01	8.298e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	73390	73363	M1	1.799e-06	1.614e+03	6.062e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	73390	73363	E2	8.636e-11	7.751e-02	1.303e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	288420	288172	E1	8.898e-04	1.232e+07	1.017e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	288420	288172	M2	2.264e-11	3.135e-01	4.233e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	405120	404952	E1	1.032e-01	2.823e+09	8.394e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	405120	404952	M2	3.155e-12	8.628e-02	2.126e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2S_{1/2}$	415220	415170	M2	1.982e-11	3.798e-01	1.239e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2S_{1/2}$	535120	535161	E1	5.599e-03	5.348e+08	3.444e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	554020	553958	E1	6.773e-02	3.466e+09	4.025e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	554020	553958	M2	2.237e-10	1.145e+01	5.887e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	13320	13321	M1	3.790e-07	1.122e+01	7.036e-01

Continued. . .

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^2P_{1/2}$	13320	13321	E2	1.303e-12	3.856e-05	3.282e-03
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	228350	228130	E1	3.904e-04	3.388e+06	5.634e-04
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	228350	228130	M2	7.069e-12	6.135e-02	2.664e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	345050	344910	E1	5.462e-02	1.083e+09	5.213e-02
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	345050	344910	M2	1.294e-12	2.566e-02	1.410e-02
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{1/2}$	355150	355128	M2	9.754e-12	1.368e-01	9.743e-02
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{1/2}$	475050	475119	E1	1.177e-01	8.859e+09	8.154e-02
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	493950	493915	E1	1.036e-02	4.213e+08	6.903e-03
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	493950	493915	M2	1.305e-10	5.309e+00	4.845e-01
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	215030	214808	E1	1.325e-03	1.020e+07	2.031e-03
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	215030	214808	M2	1.127e-11	8.672e-02	5.087e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	331730	331588	E1	4.477e-03	8.209e+07	4.445e-03
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	331730	331588	M2	5.421e-12	9.940e-02	6.652e-02
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{3/2}$	341830	341806	E1	1.829e-01	2.376e+09	1.762e-01
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{3/2}$	341830	341806	M2	1.120e-11	1.454e-01	1.254e-01
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{3/2}$	461730	461797	E1	2.935e-02	2.087e+09	2.092e-02
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{3/2}$	461730	461797	M2	4.503e-12	3.203e-01	2.046e-02
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	480630	480594	E1	2.858e-01	1.101e+10	1.958e-01
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	480630	480594	M2	5.054e-11	1.947e+00	2.037e-01
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^4S_{3/2}^o$	126800	126998	M1	3.188e-08	5.715e+01	6.207e-03
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^4S_{3/2}^o$	126800	126998	E2	1.652e-10	2.962e-01	4.803e-04
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^4S_{3/2}^o$	246700	246989	M1	3.244e-07	6.601e+03	3.248e-02
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^4S_{3/2}^o$	246700	246989	E2	4.103e-11	8.347e-01	1.622e-05
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^2D_{3/2}^o$	10100	10217	M1	9.069e-07	1.053e+01	2.195e+00
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^2D_{3/2}^o$	10100	10217	E2	2.688e-13	3.120e-06	1.501e-03
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{3/2}^o$	130000	130208	M1	5.336e-07	3.017e+03	1.013e-01
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{3/2}^o$	130000	130208	E2	2.889e-09	1.634e+01	7.796e-03
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{5/2}^o$	119900	119990	E2	1.688e-09	8.105e+00	5.819e-03
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2D_{5/2}^o$	138800	138787	M1	1.108e-06	3.559e+03	1.974e-01
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2D_{5/2}^o$	138800	138787	E2	8.080e-09	2.595e+01	1.800e-02
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2P_{1/2}^o$	18900	18796	M1	9.090e-07	5.356e+01	1.196e+00
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2P_{1/2}^o$	18900	18796	E2	9.248e-13	5.449e-05	8.294e-04
V XIX							
$2s^22p\ ^2P_{3/2}^o$	$2s^22p\ ^2P_{1/2}^o$	68610	68624	M1	3.688e-06	2.896e+03	1.329e+00
$2s^22p\ ^2P_{3/2}^o$	$2s^22p\ ^2P_{1/2}^o$	68610	68624	E2	1.979e-10	1.554e-01	3.647e-03
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	332180	331886	E1	7.371e-04	2.708e+07	7.311e-04
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	361600	361343	E1	2.941e-05	6.404e+05	2.680e-05
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{1/2}^o$	361600	361343	M2	1.205e-10	2.624e+00	1.143e+00
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{1/2}^o$	394560	394271	M2	1.249e-10	2.158e+00	9.117e-01
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	597590	597427	E1	1.154e-01	6.871e+09	6.361e-02
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	597590	597427	M2	7.182e-12	4.274e-01	1.507e-02
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{1/2}^o$	605320	605946	M2	4.748e-10	1.938e+01	9.546e-01
$2s2p^2\ ^2P_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	716370	716603	E1	1.645e-01	2.818e+10	7.559e-02
$2s2p^2\ ^2S_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	788850	789059	E1	1.554e-02	3.227e+09	6.483e-03
$2s2p^2\ ^2P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	802786	802785	E1	4.941e-02	5.310e+09	2.026e-02
$2s2p^2\ ^2P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	802786	802785	M2	8.481e-11	9.115e+00	7.334e-02
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	263570	263262	E1	3.332e-04	7.702e+06	4.167e-04
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	263570	263262	M2	5.470e-12	1.264e-01	1.341e-01
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	292990	292719	E1	2.452e-04	3.503e+06	2.757e-04
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	292990	292719	M2	2.701e-12	3.860e-02	4.818e-02
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	325950	325647	E1	1.961e-03	2.311e+07	1.982e-03
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	325950	325647	M2	1.265e-10	1.491e+00	1.639e+00
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	528980	528803	E1	2.802e-03	1.307e+08	1.744e-03
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	528980	528803	M2	4.431e-11	2.066e+00	1.341e-01
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	536710	537321	E1	1.444e-01	4.634e+09	8.846e-02
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	536710	537321	M2	5.809e-10	1.865e+01	1.675e+00
$2s2p^2\ ^2P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	647760	647978	E1	3.372e-04	4.721e+07	1.713e-04

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2P _{1/2}	2s ² 2p 2P _{3/2} ^o	647760	647978	M2	2.141e-11	2.998e+00	3.521e-02
2s2p ² 2S _{1/2}	2s ² 2p 2P _{3/2} ^o	720240	720435	E1	1.506e-01	2.607e+10	6.882e-02
2s2p ² 2S _{1/2}	2s ² 2p 2P _{3/2} ^o	720240	720435	M2	2.887e-10	4.998e+01	3.454e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P _{3/2} ^o	734176	734161	E1	3.712e-01	3.337e+10	1.665e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P _{3/2} ^o	734176	734161	M2	3.488e-10	3.135e+01	3.943e-01
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	29420	29457	M1	3.876e-06	5.609e+02	3.254e+00
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	29420	29457	E2	1.839e-12	2.661e-04	4.284e-04
2s2p ² 4P _{5/2}	2s2p ² 4P _{1/2}	62380	62385	E2	1.563e-10	6.763e-02	3.834e-03
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	265410	265541	M1	7.993e-08	9.399e+02	7.444e-03
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	265410	265541	E2	2.875e-10	3.381e+00	9.146e-05
2s2p ² 2D _{5/2}	2s2p ² 4P _{1/2}	273140	274059	E2	3.470e-11	2.898e-01	1.004e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	470606	470899	M1	2.306e-08	8.525e+02	1.211e-03
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	470606	470899	E2	4.498e-11	1.663e+00	2.566e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	698670	698615	E1	8.749e-02	7.120e+09	4.123e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	698670	698615	M2	1.224e-10	9.960e+00	1.606e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	820720	820868	E1	1.938e-05	2.177e+06	7.772e-06
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	820720	820868	M2	9.413e-10	1.058e+02	7.613e-01
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{1/2}	833920	834907	M2	1.015e-10	7.865e+00	7.802e-02
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{1/2}	960620	960841	E1	3.310e-04	1.019e+08	1.134e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	986020	986470	E1	1.895e-05	3.076e+06	6.325e-06
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	986020	986470	M2	3.241e-13	5.260e-02	1.511e-04
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	32960	32927	M1	4.712e-06	5.680e+02	3.539e+00
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	32960	32927	E2	3.005e-11	3.622e-03	5.013e-03
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	243720	244602	M1	4.856e-07	3.230e+03	4.910e-02
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	243720	244602	E2	4.827e-10	3.210e+00	1.964e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	354770	355259	M1	5.124e-07	2.157e+04	3.567e-02
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	354770	355259	E2	1.571e-11	6.613e-01	2.087e-06
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	427250	427716	M1	3.959e-07	2.416e+04	2.289e-02
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	427250	427716	E2	1.276e-10	7.787e+00	9.715e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	669250	669158	E1	1.604e-01	1.197e+10	7.890e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	669250	669158	M2	2.689e-10	2.008e+01	4.015e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	791300	791411	E1	6.040e-03	6.309e+08	2.513e-03
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	791300	791411	M2	7.871e-10	8.221e+01	7.104e-01
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	804500	805449	E1	2.359e-04	1.701e+07	9.641e-05
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	804500	805449	M2	6.396e-10	4.613e+01	5.476e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	931200	931383	E1	7.358e-05	2.129e+07	2.601e-05
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	931200	931383	M2	5.331e-10	1.542e+02	2.952e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	956600	957013	E1	1.090e-03	1.665e+08	3.751e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	956600	957013	M2	1.350e-10	2.062e+01	6.890e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	203030	203156	M1	2.097e-07	1.443e+03	2.552e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	203030	203156	E2	2.220e-10	1.528e+00	1.577e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	321810	322331	E2	7.413e-11	2.569e+00	1.318e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	394290	394788	E2	4.217e-10	2.192e+01	4.082e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	408226	408513	M1	3.009e-08	8.373e+02	1.821e-03
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	408226	408513	E2	1.461e-10	4.065e+00	1.276e-05
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	636290	636230	E1	2.325e-01	1.569e+10	1.203e-01
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	636290	636230	M2	3.757e-10	2.536e+01	6.526e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	758340	758483	E1	2.792e-04	2.678e+07	1.212e-04
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	758340	758483	M2	9.133e-13	8.761e-02	9.363e-04
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	771540	772522	E1	1.033e-02	6.851e+08	4.400e-03
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	771540	772522	M2	1.129e-09	7.488e+01	1.095e+00
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{5/2}	898240	898455	M2	3.788e-10	1.020e+02	2.336e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	923640	924085	E1	5.870e-04	8.359e+07	2.091e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	923640	924085	M2	1.237e-09	1.761e+02	7.010e-01
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	7730	8518	M1	7.973e-07	6.431e+00	2.315e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	7730	8518	E2	3.343e-13	2.697e-06	3.221e-03
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	118780	119175	M1	6.582e-08	3.118e+02	1.366e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	118780	119175	E2	1.006e-09	4.765e+00	3.540e-03
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	191260	191632	M1	1.326e-07	1.624e+03	1.711e-02
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	191260	191632	E2	3.129e-09	3.833e+01	2.649e-03

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	433260	433074	E1	8.471e-04	2.649e+07	6.439e-04
2p ³ 4S _{3/2}	2s2p ² 2D _{3/2}	433260	433074	M2	3.685e-12	1.152e-01	2.029e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	555310	555327	E1	1.251e-01	6.433e+09	7.416e-02
2p ³ 2D _{3/2}	2s2p ² 2D _{3/2}	555310	555327	M2	6.736e-11	3.464e+00	1.760e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	568510	569365	E1	5.194e-02	1.872e+09	3.003e-02
2p ³ 2D _{5/2}	2s2p ² 2D _{3/2}	568510	569365	M2	3.694e-10	1.331e+01	8.954e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	695210	695299	E1	1.240e-01	1.999e+10	5.871e-02
2p ³ 2P _{1/2}	2s2p ² 2D _{3/2}	695210	695299	M2	3.570e-12	5.756e-01	4.752e-03
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	720610	720929	E1	4.008e-02	3.474e+09	1.830e-02
2p ³ 2P _{3/2}	2s2p ² 2D _{3/2}	720610	720929	M2	7.321e-11	6.345e+00	8.741e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{5/2}	111050	110657	E2	1.114e-09	4.548e+00	4.895e-03
2s2p ² 2S _{1/2}	2s2p ² 2D _{5/2}	183530	183113	E2	4.717e-09	5.275e+01	4.575e-03
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	197466	196839	M1	4.775e-07	3.085e+03	5.999e-02
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	197466	196839	E2	1.589e-11	1.026e-01	1.241e-05
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	425530	424555	E1	9.392e-05	2.823e+06	7.282e-05
2p ³ 4S _{3/2}	2s2p ² 2D _{5/2}	425530	424555	M2	2.060e-12	6.192e-02	1.204e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	547580	546809	E1	6.472e-02	3.227e+09	3.897e-02
2p ³ 2D _{3/2}	2s2p ² 2D _{5/2}	547580	546809	M2	1.962e-10	9.785e+00	5.370e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	560780	560847	E1	2.781e-01	9.726e+09	1.633e-01
2p ³ 2D _{5/2}	2s2p ² 2D _{5/2}	560780	560847	M2	4.156e-10	1.453e+01	1.054e+00
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{5/2}	687480	686781	M2	1.704e-10	2.680e+01	2.353e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	712880	712411	E1	1.320e-01	1.117e+10	6.098e-02
2p ³ 2P _{3/2}	2s2p ² 2D _{5/2}	712880	712411	M2	6.721e-10	5.688e+01	8.316e-01
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	86416	86182	M1	2.332e-06	2.888e+03	6.691e-01
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	86416	86182	E2	1.243e-10	1.540e-01	1.157e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	314480	313898	E1	1.419e-03	2.331e+07	1.488e-03
2p ³ 4S _{3/2}	2s2p ² 2P _{1/2}	314480	313898	M2	2.936e-11	4.824e-01	4.247e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	436530	436152	E1	1.122e-01	3.560e+09	8.472e-02
2p ³ 2D _{3/2}	2s2p ² 2P _{1/2}	436530	436152	M2	2.909e-12	9.227e-02	1.568e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{1/2}	449730	450190	M2	2.528e-11	5.696e-01	1.240e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{1/2}	576430	576124	E1	8.260e-03	9.144e+08	4.720e-03
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	601830	601754	E1	5.762e-02	3.479e+09	3.152e-02
2p ³ 2P _{3/2}	2s2p ² 2P _{1/2}	601830	601754	M2	2.240e-10	1.353e+01	4.599e-01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	13936	13725	M1	3.520e-07	1.106e+01	6.341e-01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	13936	13725	E2	1.139e-12	3.579e-05	2.624e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	242000	241442	E1	4.822e-04	4.687e+06	6.574e-04
2p ³ 4S _{3/2}	2s2p ² 2S _{1/2}	242000	241442	M2	6.219e-12	6.045e-02	1.977e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	364050	363695	E1	4.442e-02	9.797e+08	4.021e-02
2p ³ 2D _{3/2}	2s2p ² 2S _{1/2}	364050	363695	M2	2.262e-12	4.988e-02	2.103e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2S _{1/2}	377250	377733	M2	9.292e-12	1.474e-01	7.713e-02
2p ³ 2P _{1/2} ^o	2s2p ² 2S _{1/2}	503950	503667	E1	1.104e-01	9.337e+09	7.214e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	529350	529297	E1	1.465e-02	6.847e+08	9.115e-03
2p ³ 2P _{3/2}	2s2p ² 2S _{1/2}	529350	529297	M2	1.622e-10	7.579e+00	4.894e-01
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	228064	227716	E1	1.615e-03	1.396e+07	2.334e-03
2p ³ 4S _{3/2}	2s2p ² 2P _{3/2}	228064	227716	M2	1.140e-11	9.862e-02	4.321e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{3/2}	350114	349969	E1	3.418e-03	6.982e+07	3.216e-03
2p ³ 2D _{3/2}	2s2p ² 2P _{3/2}	350114	349969	M2	6.525e-12	1.333e-01	6.811e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{3/2}	363314	364008	E1	1.739e-01	2.562e+09	1.573e-01
2p ³ 2D _{5/2}	2s2p ² 2P _{3/2}	363314	364008	M2	1.105e-11	1.627e-01	1.025e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{3/2}	490014	489941	E1	2.627e-02	2.103e+09	1.765e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{3/2}	490014	489941	M2	4.831e-12	3.867e-01	1.838e-02
2p ³ 2P _{3/2}	2s2p ² 2P _{3/2}	515414	515571	E1	2.821e-01	1.250e+10	1.801e-01
2p ³ 2P _{3/2}	2s2p ² 2P _{3/2}	515414	515571	M2	5.939e-11	2.633e+00	1.939e-01
2p ³ 2D _{5/2} ^o	2p ³ 4S _{3/2} ^o	135250	136291	M1	5.940e-08	1.227e+02	1.078e-02
2p ³ 2D _{5/2}	2p ³ 4S _{3/2} ^o	135250	136291	E2	2.259e-10	4.664e-01	5.313e-04
2p ³ 2P _{1/2} ^o	2p ³ 4S _{3/2} ^o	261950	262225	M1	4.661e-07	1.069e+04	4.396e-02
2p ³ 2P _{1/2}	2p ³ 4S _{3/2} ^o	261950	262225	E2	7.363e-11	1.688e+00	2.432e-05

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	13200	14038	M1	1.219e-06	2.670e+01	2.147e+00
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	13200	14038	E2	6.764e-13	1.482e-05	1.456e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	139900	139972	M1	6.802e-07	4.444e+03	1.202e-01
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	139900	139972	E2	2.869e-09	1.875e+01	6.231e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{5/2}^o$	126700	125933	E2	1.597e-09	8.447e+00	4.763e-03
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	152100	151563	M1	1.476e-06	5.655e+03	2.409e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	152100	151563	E2	8.380e-09	3.210e+01	1.434e-02
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	25400	25629	M1	1.208e-06	1.323e+02	1.165e+00
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	25400	25629	E2	2.289e-12	2.507e-04	8.096e-04
Cr XX							
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	82970	82947	M1	4.456e-06	5.113e+03	1.329e+00
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	82970	82947	E2	2.888e-10	3.314e-01	3.014e-03
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	354570	355118	E1	9.503e-04	3.997e+07	8.810e-04
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	391360	391786	E1	3.709e-05	9.494e+05	3.117e-05
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	391360	391786	M2	1.396e-10	3.574e+00	1.039e+00
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	430650	430845	M2	1.551e-10	3.200e+00	8.675e-01
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	640950	641177	E1	1.160e-01	7.951e+09	5.955e-02
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	640950	641177	M2	6.661e-12	4.567e-01	1.131e-02
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	653080	653244	M2	5.120e-10	2.429e+01	8.217e-01
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	760270	760631	E1	1.621e-01	3.129e+10	7.018e-02
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	847560	847892	E1	1.144e-02	2.743e+09	4.443e-03
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	861500	861834	E1	4.505e-02	5.580e+09	1.721e-02
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	861500	861834	M2	9.285e-11	1.150e+01	6.489e-02
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	271600	272171	E1	3.877e-04	9.579e+06	4.690e-04
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	271600	272171	M2	5.273e-12	1.303e-01	1.170e-01
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	308390	308839	E1	3.004e-04	4.777e+06	3.202e-04
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	308390	308839	M2	2.730e-12	4.342e-02	4.146e-02
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	347680	347898	E1	2.561e-03	3.446e+07	2.424e-03
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	347680	347898	M2	1.326e-10	1.784e+00	1.409e+00
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	557980	558230	E1	1.770e-03	9.196e+07	1.044e-03
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	557980	558230	M2	4.425e-11	2.300e+00	1.138e-01
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	570110	570297	E1	1.388e-01	5.017e+09	8.010e-02
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	570110	570297	M2	6.580e-10	2.379e+01	1.587e+00
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	677300	677684	E1	5.391e-06	8.257e+05	2.619e-06
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	677300	677684	M2	1.820e-11	2.787e+00	2.616e-02
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	764590	764944	E1	1.454e-01	2.837e+10	6.256e-02
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	764590	764944	M2	3.269e-10	6.380e+01	3.267e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	778530	778887	E1	3.607e-01	3.649e+10	1.525e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	778530	778887	M2	3.885e-10	3.930e+01	3.678e-01
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	36790	36668	M1	4.795e-06	1.075e+03	3.233e+00
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	36790	36668	E2	2.936e-12	6.584e-04	3.547e-04
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	76080	75726	E2	2.318e-10	1.478e-01	3.179e-03
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	286380	286059	M1	1.079e-07	1.472e+03	9.326e-03
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	286380	286059	E2	3.842e-10	5.242e+00	9.775e-05
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	298510	298126	E2	4.078e-11	4.029e-01	9.165e-06
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	506930	506716	M1	2.988e-08	1.280e+03	1.458e-03
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	506930	506716	E2	5.279e-11	2.260e+00	2.417e-06
$2p^3 \ ^4S_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	747270	746974	E1	8.548e-02	7.953e+09	3.767e-02
$2p^3 \ ^4S_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	747270	746974	M2	1.591e-10	1.480e+01	1.707e-01
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	875030	874763	E1	6.038e-05	7.705e+06	2.272e-05
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	875030	874763	M2	1.012e-09	1.291e+02	6.761e-01
$2p^3 \ ^2D_{5/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	893810	893443	M2	1.094e-10	9.712e+00	6.865e-02
$2p^3 \ ^2P_{1/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	1025570	1025287	E1	3.807e-04	1.335e+08	1.222e-04
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	1059940	1059536	E1	2.317e-05	4.337e+06	7.199e-06
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	1059940	1059536	M2	2.928e-14	5.481e-03	1.101e-05
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	39290	39058	M1	5.557e-06	9.425e+02	3.519e+00
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	39290	39058	E2	4.075e-11	6.911e-03	4.073e-03
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	261720	261457	M1	7.061e-07	5.366e+03	6.679e-02

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	261720	261457	E2	6.410e-10	4.871e+00	2.136e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	368910	368844	M1	6.528e-07	2.962e+04	4.377e-02
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	368910	368844	E2	2.287e-11	1.038e+00	2.715e-06
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	456200	456105	M1	5.785e-07	4.014e+04	3.137e-02
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	456200	456105	E2	1.568e-10	1.088e+01	9.840e-06
2p ³ 4S _{3/2}	2s2p ² 4P _{3/2}	710480	710306	E1	1.529e-01	1.286e+10	7.084e-02
2p ³ 4S _{3/2}	2s2p ² 4P _{3/2}	710480	710306	M2	2.780e-10	2.339e+01	3.471e-01
2p ³ 2D _{3/2}	2s2p ² 4P _{3/2}	838240	838095	E1	8.497e-03	9.953e+08	3.338e-03
2p ³ 2D _{3/2}	2s2p ² 4P _{3/2}	838240	838095	M2	8.663e-10	1.015e+02	6.584e-01
2p ³ 2D _{5/2}	2s2p ² 4P _{3/2}	857020	856775	E1	2.885e-04	2.354e+07	1.109e-04
2p ³ 2D _{5/2}	2s2p ² 4P _{3/2}	857020	856775	M2	7.041e-10	5.746e+01	5.009e-01
2p ³ 2P _{1/2}	2s2p ² 4P _{3/2}	988780	988618	E1	8.964e-05	2.922e+07	2.985e-05
2p ³ 2P _{1/2}	2s2p ² 4P _{3/2}	988780	988618	M2	5.866e-10	1.912e+02	2.716e-01
2p ³ 2P _{3/2}	2s2p ² 4P _{3/2}	1023150	1022868	E1	1.202e-03	2.096e+08	3.867e-04
2p ³ 2P _{3/2}	2s2p ² 4P _{3/2}	1023150	1022868	M2	1.576e-10	2.750e+01	6.590e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	210300	210332	M1	3.009e-07	2.220e+03	3.538e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	210300	210332	E2	2.630e-10	1.940e+00	1.684e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	329620	329786	E2	7.734e-11	2.805e+00	1.284e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	416910	417046	E2	6.071e-10	3.522e+01	4.985e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	430850	430989	M1	3.194e-08	9.894e+02	1.833e-03
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	430850	430989	E2	2.092e-10	6.479e+00	1.556e-05
2p ³ 4S _{3/2}	2s2p ² 4P _{5/2}	671190	671247	E1	2.225e-01	1.672e+10	1.091e-01
2p ³ 4S _{3/2}	2s2p ² 4P _{5/2}	671190	671247	M2	3.808e-10	2.861e+01	5.632e-01
2p ³ 2D _{3/2}	2s2p ² 4P _{5/2}	798950	799036	E1	5.861e-04	6.240e+07	2.415e-04
2p ³ 2D _{3/2}	2s2p ² 4P _{5/2}	798950	799036	M2	9.337e-12	9.941e-01	8.188e-03
2p ³ 2D _{5/2}	2s2p ² 4P _{5/2}	817730	817716	E1	1.325e-02	9.847e+08	5.333e-03
2p ³ 2D _{5/2}	2s2p ² 4P _{5/2}	817730	817716	M2	1.273e-09	9.462e+01	1.042e+00
2p ³ 2P _{1/2}	2s2p ² 4P _{5/2}	949490	949560	M2	4.305e-10	1.294e+02	2.249e-01
2p ³ 2P _{3/2}	2s2p ² 4P _{5/2}	983860	983809	E1	6.414e-04	1.035e+08	2.147e-04
2p ³ 2P _{3/2}	2s2p ² 4P _{5/2}	983860	983809	M2	1.333e-09	2.152e+02	6.264e-01
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	12130	12066	M1	1.117e-06	1.808e+01	2.289e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	12130	12066	E2	7.691e-13	1.245e-05	2.607e-03
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	119320	119453	M1	9.057e-08	4.310e+02	1.875e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	119320	119453	E2	7.930e-10	3.774e+00	2.771e-03
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	206610	206714	M1	1.709e-07	2.436e+03	2.045e-02
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	206610	206714	E2	3.395e-09	4.838e+01	2.289e-03
2p ³ 4S _{3/2}	2s2p ² 2D _{3/2}	460890	460915	E1	1.371e-03	4.856e+07	9.790e-04
2p ³ 4S _{3/2}	2s2p ² 2D _{3/2}	460890	460915	M2	4.651e-12	1.648e-01	2.125e-02
2p ³ 2D _{3/2}	2s2p ² 2D _{3/2}	588650	588704	E1	1.154e-01	6.670e+09	6.453e-02
2p ³ 2D _{3/2}	2s2p ² 2D _{3/2}	588650	588704	M2	7.453e-11	4.307e+00	1.634e-01
2p ³ 2D _{5/2}	2s2p ² 2D _{3/2}	607430	607384	E1	5.535e-02	2.270e+09	3.000e-02
2p ³ 2D _{5/2}	2s2p ² 2D _{3/2}	607430	607384	M2	4.079e-10	1.673e+01	8.145e-01
2p ³ 2P _{1/2}	2s2p ² 2D _{3/2}	739190	739227	E1	1.220e-01	2.223e+10	5.433e-02
2p ³ 2P _{1/2}	2s2p ² 2D _{3/2}	739190	739227	M2	3.292e-12	6.000e-01	3.646e-03
2p ³ 2P _{3/2}	2s2p ² 2D _{3/2}	773560	773477	E1	3.898e-02	3.889e+09	1.659e-02
2p ³ 2P _{3/2}	2s2p ² 2D _{3/2}	773560	773477	M2	8.314e-11	8.295e+00	8.038e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{5/2}	107190	107387	E2	7.663e-10	2.947e+00	3.686e-03
2s2p ² 2S _{1/2}	2s2p ² 2D _{5/2}	194480	194647	E2	5.059e-09	6.393e+01	4.086e-03
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	208420	208589	M1	6.525e-07	4.734e+03	7.735e-02
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	208420	208589	E2	2.718e-11	1.972e-01	1.784e-05
2p ³ 4S _{3/2}	2s2p ² 2D _{5/2}	448760	448848	E1	1.478e-04	4.966e+06	1.084e-04
2p ³ 4S _{3/2}	2s2p ² 2D _{5/2}	448760	448848	M2	3.177e-12	1.067e-01	1.572e-02
2p ³ 2D _{3/2}	2s2p ² 2D _{5/2}	576520	576637	E1	6.660e-02	3.693e+09	3.802e-02
2p ³ 2D _{3/2}	2s2p ² 2D _{5/2}	576520	576637	M2	1.909e-10	1.058e+01	4.453e-01
2p ³ 2D _{5/2}	2s2p ² 2D _{5/2}	595300	595317	E1	2.664e-01	1.050e+10	1.473e-01
2p ³ 2D _{5/2}	2s2p ² 2D _{5/2}	595300	595317	M2	4.292e-10	1.691e+01	9.102e-01
2p ³ 2P _{1/2}	2s2p ² 2D _{5/2}	727060	727160	M2	1.765e-10	3.113e+01	2.054e-01
2p ³ 2P _{3/2}	2s2p ² 2D _{5/2}	761430	761410	E1	1.221e-01	1.181e+10	5.280e-02
2p ³ 2P _{3/2}	2s2p ² 2D _{5/2}	761430	761410	M2	8.223e-10	7.949e+01	8.333e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	101230	101202	M1	2.953e-06	5.044e+03	7.217e-01
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	101230	101202	E2	1.756e-10	2.999e-01	1.009e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	341570	341461	E1	2.199e-03	4.276e+07	2.120e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	341570	341461	M2	3.719e-11	7.231e-01	4.179e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	469330	469250	E1	1.191e-01	4.374e+09	8.357e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	469330	469250	M2	2.261e-12	8.303e-02	9.791e-03
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{1/2}	488110	487930	M2	3.176e-11	8.405e-01	1.223e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{1/2}	619870	619773	E1	1.081e-02	1.385e+09	5.744e-03
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	654240	654023	E1	4.864e-02	3.470e+09	2.448e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	654240	654023	M2	2.256e-10	1.610e+01	3.609e-01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	13940	13942	M1	3.235e-07	1.049e+01	5.737e-01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	13940	13942	E2	9.737e-13	3.156e-05	2.140e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	254280	254201	E1	5.891e-04	6.348e+06	7.629e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	254280	254201	M2	5.326e-12	5.739e-02	1.451e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	382040	381990	E1	3.600e-02	8.760e+08	3.103e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	382040	381990	M2	3.484e-12	8.479e-02	2.797e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2S _{1/2}	400820	400670	M2	8.850e-12	1.579e-01	6.155e-02
2p ³ 2P _{1/2} ^o	2s2p ² 2S _{1/2}	532580	532513	E1	1.036e-01	9.799e+09	6.406e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	566950	566763	E1	1.869e-02	1.001e+09	1.086e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	566950	566763	M2	1.965e-10	1.052e+01	4.828e-01
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	240340	240258	E1	1.921e-03	1.849e+07	2.633e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	240340	240258	M2	1.131e-11	1.089e-01	3.648e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{3/2}	368100	368047	E1	2.663e-03	6.015e+07	2.382e-03
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{3/2}	368100	368047	M2	7.831e-12	1.769e-01	7.027e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{3/2}	386880	386727	E1	1.653e-01	2.749e+09	1.407e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{3/2}	386880	386727	M2	1.078e-11	1.792e-01	8.336e-02
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{3/2}	518640	518570	E1	2.338e-02	2.097e+09	1.484e-02
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{3/2}	518640	518570	M2	5.150e-12	4.619e-01	1.652e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{3/2}	553010	552820	E1	2.790e-01	1.422e+10	1.662e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{3/2}	553010	552820	M2	7.022e-11	3.579e+00	1.860e-01
2p ³ 2D _{5/2} ^o	2p ³ 4S _{3/2} ^o	146540	146469	M1	1.071e-07	2.555e+02	1.809e-02
2p ³ 2D _{5/2} ^o	2p ³ 4S _{3/2} ^o	146540	146469	E2	3.087e-10	7.363e-01	5.851e-04
2p ³ 2P _{1/2} ^o	2p ³ 4S _{3/2} ^o	278300	278312	M1	6.601e-07	1.705e+04	5.865e-02
2p ³ 2P _{1/2} ^o	2p ³ 4S _{3/2} ^o	278300	278312	E2	1.273e-10	3.288e+00	3.516e-05
2p ³ 2D _{5/2} ^o	2p ³ 2D _{3/2} ^o	18780	18679	M1	1.582e-06	6.137e+01	2.094e+00
2p ³ 2D _{5/2} ^o	2p ³ 2D _{3/2} ^o	18780	18679	E2	1.504e-12	5.835e-05	1.374e-03
2p ³ 2P _{1/2} ^o	2p ³ 2D _{3/2} ^o	150540	150523	M1	8.360e-07	6.317e+03	1.373e-01
2p ³ 2P _{1/2} ^o	2p ³ 2D _{3/2} ^o	150540	150523	E2	2.873e-09	2.171e+01	5.017e-03
2p ³ 2P _{1/2} ^o	2p ³ 2D _{5/2} ^o	131760	131843	E2	1.515e-09	8.780e+00	3.936e-03
2p ³ 2P _{3/2} ^o	2p ³ 2D _{5/2} ^o	166130	166092	M1	1.920e-06	8.831e+03	2.858e-01
2p ³ 2P _{3/2} ^o	2p ³ 2D _{5/2} ^o	166130	166092	E2	8.848e-09	4.071e+01	1.150e-02
2p ³ 2P _{3/2} ^o	2p ³ 2P _{1/2} ^o	34370	34249	M1	1.569e-06	3.069e+02	1.133e+00
2p ³ 2P _{3/2} ^o	2p ³ 2P _{1/2} ^o	34370	34249	E2	5.256e-12	1.028e-03	7.792e-04
Mn XXI							
2s ² 2p 2P _{3/2} ^o	2s ² 2p 2P _{1/2} ^o	99360	99425	M1	5.339e-06	8.802e+03	1.328e+00
2s ² 2p 2P _{3/2} ^o	2s ² 2p 2P _{1/2} ^o	99360	99425	E2	4.146e-10	6.835e-01	2.513e-03
2s2p ² 4P _{1/2}	2s ² 2p 2P _{1/2} ^o	379660	379300	E1	1.210e-03	5.803e+07	1.050e-03
2s2p ² 4P _{3/2}	2s ² 2p 2P _{1/2} ^o	424980	424614	E1	4.623e-05	1.390e+06	3.584e-05
2s2p ² 4P _{3/2}	2s ² 2p 2P _{1/2} ^o	424980	424614	M2	1.623e-10	4.878e+00	9.482e-01
2s2p ² 4P _{5/2}	2s ² 2p 2P _{1/2} ^o	470670	470414	M2	1.932e-10	4.754e+00	8.304e-01
2s2p ² 2D _{3/2}	2s ² 2p 2P _{1/2} ^o	687540	687479	E1	1.169e-01	9.211e+09	5.597e-02
2s2p ² 2D _{3/2}	2s ² 2p 2P _{1/2} ^o	687540	687479	M2	6.022e-12	4.746e-01	8.292e-03
2s2p ² 2D _{5/2}	2s ² 2p 2P _{1/2} ^o	704190	704236	M2	5.503e-10	3.034e+01	7.049e-01
2s2p ² 2P _{1/2}	2s ² 2p 2P _{1/2} ^o	805930	806346	E1	1.592e-01	3.453e+10	6.501e-02
2s2p ² 2S _{1/2}	2s ² 2p 2P _{1/2} ^o	910880	910974	E1	8.525e-03	2.359e+09	3.081e-03
2s2p ² 2P _{3/2}	2s ² 2p 2P _{1/2} ^o	924710	924974	E1	4.095e-02	5.843e+09	1.458e-02
2s2p ² 2P _{3/2}	2s ² 2p 2P _{1/2} ^o	924710	924974	M2	1.015e-10	1.449e+01	5.740e-02

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 4P _{1/2}	2s ² 2p ² 2P _{3/2} ^o	280300	279875	E1	4.418e-04	1.154e+07	5.197e-04
2s2p ² 4P _{1/2}	2s ² 2p ² 2P _{3/2} ^o	280300	279875	M2	5.007e-12	1.308e-01	1.022e-01
2s2p ² 4P _{3/2}	2s ² 2p ² 2P _{3/2} ^o	325620	325188	E1	3.627e-04	6.395e+06	3.671e-04
2s2p ² 4P _{3/2}	2s ² 2p ² 2P _{3/2} ^o	325620	325188	M2	2.743e-12	4.837e-02	3.569e-02
2s2p ² 4P _{5/2}	2s ² 2p ² 2P _{3/2} ^o	371310	370989	E1	3.301e-03	5.051e+07	2.929e-03
2s2p ² 4P _{5/2}	2s ² 2p ² 2P _{3/2} ^o	371310	370989	M2	1.377e-10	2.107e+00	1.206e+00
2s2p ² 2D _{3/2}	2s ² 2p ² 2P _{3/2} ^o	588180	588053	E1	9.700e-04	5.594e+07	5.431e-04
2s2p ² 2D _{3/2}	2s ² 2p ² 2P _{3/2} ^o	588180	588053	M2	4.380e-11	2.526e+00	9.637e-02
2s2p ² 2D _{5/2}	2s ² 2p ² 2P _{3/2} ^o	604830	604810	E1	1.335e-01	5.429e+09	7.267e-02
2s2p ² 2D _{5/2}	2s ² 2p ² 2P _{3/2} ^o	604830	604810	M2	7.482e-10	3.043e+01	1.513e+00
2s2p ² 2P _{1/2}	2s ² 2p ² 2P _{3/2} ^o	706570	706920	E1	1.197e-04	1.996e+07	5.577e-05
2s2p ² 2P _{1/2}	2s ² 2p ² 2P _{3/2} ^o	706570	706920	M2	1.573e-11	2.622e+00	1.992e-02
2s2p ² 2S _{1/2}	2s ² 2p ² 2P _{3/2} ^o	811520	811548	E1	1.403e-01	3.081e+10	5.690e-02
2s2p ² 2S _{1/2}	2s ² 2p ² 2P _{3/2} ^o	811520	811548	M2	3.689e-10	8.103e+01	3.088e-01
2s2p ² 2P _{3/2}	2s ² 2p ² 2P _{3/2} ^o	825350	825549	E1	3.514e-01	3.994e+10	1.401e-01
2s2p ² 2P _{3/2}	2s ² 2p ² 2P _{3/2} ^o	825350	825549	M2	4.330e-10	4.922e+01	3.443e-01
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	45320	45313	M1	5.881e-06	2.014e+03	3.209e+00
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	45320	45313	E2	4.630e-12	1.585e-03	2.964e-04
2s2p ² 4P _{5/2}	2s2p ² 4P _{1/2}	91010	91114	E2	3.381e-10	3.120e-01	2.662e-03
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	307880	308178	M1	1.434e-07	2.270e+03	1.150e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	307880	308178	E2	5.095e-10	8.069e+00	1.037e-04
2s2p ² 2D _{5/2}	2s2p ² 4P _{1/2}	324530	324935	E2	4.670e-11	5.482e-01	8.108e-06
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	545050	545673	M1	3.780e-08	1.877e+03	1.713e-03
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	545050	545673	E2	6.093e-11	3.025e+00	2.233e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	797770	797827	E1	8.383e-02	8.898e+09	3.459e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	797770	797827	M2	2.091e-10	2.220e+01	1.842e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	931230	931498	E1	1.448e-04	2.095e+07	5.116e-05
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	931230	931498	M2	1.080e-09	1.562e+02	5.975e-01
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{1/2}	955410	955629	M2	1.178e-10	1.196e+01	6.040e-02
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{1/2}	1093050	1093349	E1	4.289e-04	1.710e+08	1.292e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	1137750	1138268	E1	2.719e-05	5.875e+06	7.864e-06
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	1137750	1138268	M2	8.049e-13	1.739e-01	2.442e-04
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	45690	45800	M1	6.470e-06	1.509e+03	3.493e+00
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	45690	45800	E2	5.367e-11	1.252e-02	3.327e-03
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	279210	279621	M1	1.011e-06	8.788e+03	8.941e-02
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	279210	279621	E2	8.461e-10	7.355e+00	2.305e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	380950	381732	M1	8.236e-07	4.003e+04	5.336e-02
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	380950	381732	E2	3.147e-11	1.529e+00	3.370e-06
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	485900	486359	M1	8.165e-07	6.441e+04	4.151e-02
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	485900	486359	E2	1.914e-10	1.510e+01	9.909e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	752450	752514	E1	1.452e-01	1.371e+10	6.354e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	752450	752514	M2	2.822e-10	2.665e+01	2.963e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	885910	886185	E1	1.174e-02	1.537e+09	4.361e-03
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	885910	886185	M2	9.609e-10	1.258e+02	6.177e-01
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	910090	910316	E1	3.481e-04	3.207e+07	1.259e-04
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	910090	910316	M2	7.762e-10	7.151e+01	4.604e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	1047730	1048035	E1	1.078e-04	3.949e+07	3.387e-05
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	1047730	1048035	M2	6.461e-10	2.367e+02	2.511e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	1092430	1092955	E1	1.296e-03	2.582e+08	3.905e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	1092430	1092955	M2	1.816e-10	3.618e+01	6.224e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	216870	217064	M1	4.229e-07	3.323e+03	4.818e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	216870	217064	E2	3.061e-10	2.405e+00	1.782e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	335260	335931	E2	7.926e-11	2.983e+00	1.245e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	440210	440559	E2	8.568e-10	5.546e+01	5.968e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	454040	454559	M1	3.128e-08	1.078e+03	1.702e-03
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	454040	454559	E2	2.957e-10	1.019e+01	1.875e-05
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	706760	706713	E1	2.132e-01	1.776e+10	9.931e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	706760	706713	M2	3.807e-10	3.171e+01	4.825e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	840220	840384	E1	1.100e-03	1.296e+08	4.311e-04

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	840220	840384	M2	2.859e-11	3.367e+00	2.155e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	864400	864515	E1	1.678e-02	1.394e+09	6.389e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	864400	864515	M2	1.440e-09	1.196e+02	9.967e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{5/2}$	1002040	1002235	M2	4.905e-10	1.643e+02	2.180e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	1046740	1047154	E1	6.739e-04	1.232e+08	2.119e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	1046740	1047154	M2	1.426e-09	2.608e+02	5.556e-01
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	16650	16757	M1	1.530e-06	4.775e+01	2.257e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	16650	16757	E2	1.674e-12	5.224e-05	2.118e-03
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	118390	118867	M1	1.193e-07	5.622e+02	2.482e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	118390	118867	E2	6.223e-10	2.932e+00	2.207e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	223340	223495	M1	2.183e-07	3.638e+03	2.416e-02
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	223340	223495	E2	3.673e-09	6.119e+01	1.960e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	489890	489649	E1	2.140e-03	8.557e+07	1.439e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	489890	489649	M2	5.653e-12	2.260e-01	2.154e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	623350	623320	E1	1.066e-01	6.905e+09	5.629e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	623350	623320	M2	8.355e-11	5.413e+00	1.543e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	647530	647451	E1	5.911e-02	2.755e+09	3.006e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	647530	647451	M2	4.513e-10	2.103e+01	7.438e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	785170	785170	E1	1.203e-01	2.474e+10	5.045e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	785170	785170	M2	2.971e-12	6.108e-01	2.746e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	829870	830089	E1	3.747e-02	4.305e+09	1.486e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	829870	830089	M2	9.378e-11	1.078e+01	7.335e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	101740	102110	E2	5.029e-10	1.749e+00	2.813e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	206690	206738	E2	5.358e-09	7.638e+01	3.612e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	220520	220738	M1	8.737e-07	7.099e+03	9.788e-02
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	220520	220738	E2	4.101e-11	3.332e-01	2.271e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	473240	472892	E1	2.294e-04	8.555e+06	1.597e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	473240	472892	M2	4.753e-12	1.773e-01	2.011e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	606700	606563	E1	6.799e-02	4.172e+09	3.690e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	606700	606563	M2	1.831e-10	1.123e+01	3.670e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	630880	630694	E1	2.552e-01	1.128e+10	1.332e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	630880	630694	M2	4.392e-10	1.942e+01	7.833e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{5/2}$	768520	768413	M2	1.812e-10	3.569e+01	1.787e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	813220	813332	E1	1.135e-01	1.253e+10	4.596e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	813220	813332	M2	1.004e-09	1.107e+02	8.344e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	118780	118628	M1	3.671e-06	8.616e+03	7.653e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	118780	118628	E2	2.437e-10	5.718e-01	8.693e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	371500	370782	E1	3.316e-03	7.603e+07	2.945e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	371500	370782	M2	4.613e-11	1.058e+00	4.049e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	504960	504453	E1	1.240e-01	5.263e+09	8.094e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	504960	504453	M2	1.314e-12	5.574e-02	4.578e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{1/2}$	529140	528584	M2	3.948e-11	1.226e+00	1.196e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{1/2}$	666780	666303	E1	1.318e-02	1.951e+09	6.510e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	711480	711222	E1	4.089e-02	3.449e+09	1.893e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	711480	711222	M2	2.289e-10	1.931e+01	2.846e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	13830	14000	M1	2.950e-07	9.643e+00	5.211e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	13830	14000	E2	8.183e-13	2.675e-05	1.776e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	266550	266154	E1	7.099e-04	8.386e+06	8.781e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	266550	266154	M2	4.414e-12	5.214e-02	1.047e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	400010	399825	E1	2.910e-02	7.759e+08	2.397e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	400010	399825	M2	4.897e-12	1.306e-01	3.428e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2S_{1/2}$	424190	423956	M2	8.433e-12	1.685e-01	4.951e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2S_{1/2}$	561830	561675	E1	9.746e-02	1.025e+10	5.712e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	606530	606594	E1	2.234e-02	1.371e+09	1.212e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	606530	606594	M2	2.339e-10	1.435e+01	4.687e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	252720	252154	E1	2.230e-03	2.365e+07	2.912e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	252720	252154	M2	1.095e-11	1.161e-01	3.054e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	386180	385824	E1	2.164e-03	5.373e+07	1.847e-03

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	386180	385824	M2	9.340e-12	2.319e-01	7.276e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	410360	409955	E1	1.571e-01	2.935e+09	1.262e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	410360	409955	M2	1.039e-11	1.942e-01	6.748e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	548000	547675	E1	2.069e-02	2.070e+09	1.244e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	548000	547675	M2	5.455e-12	5.457e-01	1.486e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	592700	592594	E1	2.766e-01	1.620e+10	1.536e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	592700	592594	M2	8.348e-11	4.889e+00	1.795e-01
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	157640	157801	M1	1.870e-07	5.178e+02	2.931e-02
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	157640	157801	E2	4.226e-10	1.170e+00	6.406e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	295280	295520	M1	9.217e-07	2.685e+04	7.713e-02
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	295280	295520	E2	2.126e-10	6.192e+00	4.906e-05
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	24180	24131	M1	1.989e-06	1.287e+02	2.038e+00
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	24180	24131	E2	2.976e-12	1.926e-04	1.261e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	161820	161850	M1	9.905e-07	8.654e+03	1.513e-01
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	161820	161850	E2	2.894e-09	2.529e+01	4.066e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{5/2}^o$	137640	137719	E2	1.439e-09	9.102e+00	3.281e-03
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	182340	182638	M1	2.442e-06	1.358e+04	3.307e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	182340	182638	E2	9.508e-09	5.289e+01	9.295e-03
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	44700	44919	M1	1.998e-06	6.723e+02	1.100e+00
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	44700	44919	E2	1.126e-11	3.789e-03	7.400e-04
Fe XXII							
$2s^22p \ ^2P_{3/2}^o$	$2s^22p \ ^2P_{1/2}^o$	118266	118272	M1	6.349e-06	1.481e+04	1.327e+00
$2s^22p \ ^2P_{3/2}^o$	$2s^22p \ ^2P_{1/2}^o$	118266	118272	E2	5.863e-10	1.368e+00	2.111e-03
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	404550	404425	E1	1.520e-03	8.292e+07	1.237e-03
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	460190	460044	E1	5.698e-05	2.011e+06	4.077e-05
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	460190	460044	M2	1.891e-10	6.673e+00	8.688e-01
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P_{1/2}^o$	513260	513163	M2	2.413e-10	7.064e+00	7.989e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	736310	736532	E1	1.181e-01	1.068e+10	5.278e-02
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	736310	736532	M2	5.284e-12	4.780e-01	5.917e-03
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P_{1/2}^o$	759210	759390	M2	5.892e-10	3.778e+01	6.020e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	853650	853991	E1	1.561e-01	3.796e+10	6.016e-02
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	978350	978736	E1	6.425e-03	2.053e+09	2.161e-03
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	992320	992663	E1	3.711e-02	6.098e+09	1.231e-02
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	992320	992663	M2	1.109e-10	1.823e+01	5.073e-02
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	286284	286152	E1	4.930e-04	1.346e+07	5.672e-04
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	286284	286152	M2	4.677e-12	1.277e-01	8.930e-02
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	341924	341772	E1	4.320e-04	8.414e+06	4.161e-04
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	341924	341772	M2	2.741e-12	5.339e-02	3.072e-02
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	394994	394890	E1	4.194e-03	7.271e+07	3.497e-03
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	394994	394890	M2	1.415e-10	2.453e+00	1.028e+00
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	618044	618259	E1	4.101e-04	2.614e+07	2.184e-04
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	618044	618259	M2	4.298e-11	2.739e+00	8.136e-02
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	640944	641117	E1	1.286e-01	5.875e+09	6.602e-02
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P_{3/2}^o$	640944	641117	M2	8.540e-10	3.902e+01	1.450e+00
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	735384	735718	E1	4.851e-04	8.758e+07	2.171e-04
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	735384	735718	M2	1.384e-11	2.498e+00	1.554e-02
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	860084	860463	E1	1.354e-01	3.344e+10	5.182e-02
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P_{3/2}^o$	860084	860463	M2	4.155e-10	1.026e+02	2.918e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	874054	874391	E1	3.432e-01	4.376e+10	1.292e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{3/2}^o$	874054	874391	M2	4.832e-10	6.161e+01	3.234e-01
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	55640	55619	M1	7.155e-06	3.691e+03	3.181e+00
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	55640	55619	E2	7.215e-12	3.722e-03	2.497e-04
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	108710	108737	E2	4.856e-10	6.383e-01	2.250e-03
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	331760	332106	M1	1.879e-07	3.456e+03	1.399e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	331760	332106	E2	6.710e-10	1.234e+01	1.091e-04
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	354660	354964	E2	5.205e-11	7.291e-01	6.932e-06
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	587770	588238	M1	4.667e-08	2.693e+03	1.962e-03

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	587770	588238	E2	6.925e-11	3.996e+00	2.026e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	851150	851295	E1	8.249e-02	9.969e+09	3.190e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	851150	851295	M2	2.769e-10	3.347e+01	2.008e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	991560	991593	E1	2.958e-04	4.851e+07	9.822e-05
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	991560	991593	M2	1.143e-09	1.874e+02	5.244e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{1/2}$	1022020	1021917	M2	1.267e-10	1.471e+01	5.310e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{1/2}$	1165080	1165478	E1	4.736e-04	2.146e+08	1.338e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	1223170	1223383	E1	3.067e-05	7.656e+06	8.255e-06
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	1223170	1223383	M2	2.526e-12	6.305e-01	6.172e-04
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	53070	53118	M1	7.436e-06	2.332e+03	3.462e+00
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	53070	53118	E2	6.868e-11	2.154e-02	2.729e-03
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	299020	299345	M1	1.425e-06	1.420e+04	1.177e-01
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	299020	299345	E2	1.111e-09	1.107e+01	2.467e-04
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	393460	393946	M1	1.029e-06	5.327e+04	6.460e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	393460	393946	E2	4.147e-11	2.146e+00	4.039e-06
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	518160	518691	M1	1.120e-06	1.005e+05	5.337e-02
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	518160	518691	E2	2.326e-10	2.087e+01	9.928e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	795510	795676	E1	1.373e-01	1.450e+10	5.681e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	795510	795676	M2	2.803e-10	2.959e+01	2.489e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	935920	935973	E1	1.590e-02	2.322e+09	5.591e-03
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	935920	935973	M2	1.074e-09	1.569e+02	5.861e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	966380	966297	E1	4.147e-04	4.305e+07	1.413e-04
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	966380	966297	M2	8.571e-10	8.897e+01	4.250e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	1109440	1109859	E1	1.281e-04	5.263e+07	3.800e-05
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	1109440	1109859	M2	7.127e-10	2.928e+02	2.332e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	1167530	1167764	E1	1.372e-03	3.121e+08	3.869e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	1167530	1167764	M2	2.066e-10	4.699e+01	5.805e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	223050	223369	M1	5.816e-07	4.839e+03	6.439e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	223050	223369	E2	3.499e-10	2.911e+00	1.870e-04
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	340390	340828	E2	7.961e-11	3.084e+00	1.198e-05
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	465090	465573	E2	1.188e-09	8.591e+01	7.014e-05
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	479060	479500	M1	2.755e-08	1.056e+03	1.421e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	479060	479500	E2	4.128e-10	1.583e+01	2.230e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	742440	742557	E1	2.042e-01	1.878e+10	9.055e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	742440	742557	M2	3.745e-10	3.443e+01	4.092e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	882850	882855	E1	1.895e-03	2.463e+08	7.066e-04
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	882850	882855	M2	6.093e-11	7.919e+00	3.961e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	913310	913178	E1	2.098e-02	1.945e+09	7.564e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	913310	913178	M2	1.632e-09	1.513e+02	9.590e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{5/2}$	1056370	1056740	M2	5.604e-10	2.087e+02	2.124e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	1114460	1114645	E1	6.801e-04	1.409e+08	2.009e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	1114460	1114645	M2	1.512e-09	3.134e+02	4.886e-01
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	22900	22857	M1	2.052e-06	1.192e+02	2.220e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	22900	22857	E2	3.462e-12	2.011e-04	1.726e-03
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	117340	117458	M1	1.513e-07	6.964e+02	3.186e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	117340	117458	E2	4.855e-10	2.234e+00	1.784e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	242040	242204	M1	2.765e-07	5.410e+03	2.823e-02
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	242040	242204	E2	3.980e-09	7.786e+01	1.668e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	519390	519188	E1	3.220e-03	1.448e+08	2.042e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	519390	519188	M2	6.596e-12	2.965e-01	2.109e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	659800	659486	E1	9.846e-02	7.141e+09	4.915e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	659800	659486	M2	9.499e-11	6.889e+00	1.482e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	690260	689809	E1	6.321e-02	3.344e+09	3.017e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	690260	689809	M2	5.002e-10	2.646e+01	6.817e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	833320	833371	E1	1.190e-01	2.756e+10	4.700e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	833320	833371	M2	2.616e-12	6.060e-01	2.022e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	891410	891276	E1	3.559e-02	4.715e+09	1.315e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	891410	891276	M2	1.050e-10	1.391e+01	6.637e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	94440	94601	E2	3.091e-10	9.225e-01	2.174e-03

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2S _{1/2}	2s2p ² 2D _{5/2}	219140	219346	E2	5.620e-09	9.017e+01	3.171e-03
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	233110	233273	M1	1.148e-06	1.041e+04	1.216e-01
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	233110	233273	E2	5.681e-11	5.156e-01	2.666e-05
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	496490	496330	E1	3.476e-04	1.428e+07	2.306e-04
2p ³ 4S _{3/2}	2s2p ² 2D _{5/2}	496490	496330	M2	6.864e-12	2.820e-01	2.512e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	636900	636628	E1	6.888e-02	4.655e+09	3.562e-02
2p ³ 2D _{3/2}	2s2p ² 2D _{5/2}	636900	636628	M2	1.730e-10	1.169e+01	2.999e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	667360	666951	E1	2.442e-01	1.208e+10	1.205e-01
2p ³ 2D _{5/2}	2s2p ² 2D _{5/2}	667360	666951	M2	4.449e-10	2.200e+01	6.709e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{5/2}	810420	810513	M2	1.843e-10	4.037e+01	1.548e-01
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	868510	868418	E1	1.062e-01	1.336e+10	4.027e-02
2p ³ 2P _{3/2}	2s2p ² 2D _{5/2}	868510	868418	M2	1.221e-09	1.536e+02	8.341e-01
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	138670	138672	M1	4.495e-06	1.441e+04	8.016e-01
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	138670	138672	E2	3.328e-10	1.067e+00	7.434e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	402050	401729	E1	4.860e-03	1.308e+08	3.983e-03
2p ³ 4S _{3/2}	2s2p ² 2P _{1/2}	402050	401729	M2	5.605e-11	1.508e+00	3.867e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	542460	542027	E1	1.271e-01	6.227e+09	7.720e-02
2p ³ 2D _{3/2}	2s2p ² 2P _{1/2}	542460	542027	M2	3.716e-13	1.821e-02	1.044e-03
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{1/2}	572920	572350	M2	4.873e-11	1.775e+00	1.163e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{1/2}	715980	715912	E1	1.533e-02	2.621e+09	7.051e-03
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	774070	773817	E1	3.433e-02	3.428e+09	1.460e-02
2p ³ 2P _{3/2}	2s2p ² 2P _{1/2}	774070	773817	M2	2.338e-10	2.335e+01	2.258e-01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	13970	13927	M1	2.674e-07	8.648e+00	4.748e-01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	13970	13927	E2	6.791e-13	2.196e-05	1.497e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	277350	276984	E1	8.399e-04	1.074e+07	9.982e-04
2p ³ 4S _{3/2}	2s2p ² 2S _{1/2}	277350	276984	M2	3.511e-12	4.492e-02	7.392e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	417760	417282	E1	2.348e-02	6.816e+08	1.852e-02
2p ³ 2D _{3/2}	2s2p ² 2S _{1/2}	417760	417282	M2	6.407e-12	1.860e-01	3.945e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2S _{1/2}	448220	447605	M2	8.037e-12	1.790e-01	4.009e-02
2p ³ 2P _{1/2} ^o	2s2p ² 2S _{1/2}	591280	591167	E1	9.187e-02	1.071e+10	5.116e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	649370	649072	E1	2.555e-02	1.795e+09	1.296e-02
2p ³ 2P _{3/2}	2s2p ² 2S _{1/2}	649370	649072	M2	2.751e-10	1.933e+01	4.501e-01
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	263380	263057	E1	2.522e-03	2.910e+07	3.156e-03
2p ³ 4S _{3/2}	2s2p ² 2P _{3/2}	263380	263057	M2	1.030e-11	1.189e-01	2.532e-01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{3/2}	403790	403355	E1	1.876e-03	5.089e+07	1.531e-03
2p ³ 2D _{3/2}	2s2p ² 2P _{3/2}	403790	403355	M2	1.104e-11	2.995e-01	7.525e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{3/2}	434250	433678	E1	1.492e-01	3.120e+09	1.133e-01
2p ³ 2D _{5/2}	2s2p ² 2P _{3/2}	434250	433678	M2	9.905e-12	2.071e-01	5.433e-02
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{3/2}	577310	577240	E1	1.820e-02	2.023e+09	1.038e-02
2p ³ 2P _{1/2}	2s2p ² 2P _{3/2}	577310	577240	M2	5.740e-12	6.379e-01	1.335e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{3/2}	635400	635145	E1	2.746e-01	1.848e+10	1.424e-01
2p ³ 2P _{3/2}	2s2p ² 2P _{3/2}	635400	635145	M2	9.969e-11	6.706e+00	1.741e-01
2p ³ 2D _{5/2} ^o	2p ³ 4S _{3/2} ^o	170870	170621	M1	3.157e-07	1.022e+03	4.575e-02
2p ³ 2D _{5/2}	2p ³ 4S _{3/2}	170870	170621	E2	5.802e-10	1.878e+00	6.956e-04
2p ³ 2P _{1/2} ^o	2p ³ 4S _{3/2} ^o	313930	314182	M1	1.268e-06	4.176e+04	9.983e-02
2p ³ 2P _{1/2}	2p ³ 4S _{3/2}	313930	314182	E2	3.436e-10	1.131e+01	6.599e-05
2p ³ 2D _{5/2} ^o	2p ³ 2D _{3/2} ^o	30460	30323	M1	2.425e-06	2.479e+02	1.978e+00
2p ³ 2D _{5/2}	2p ³ 2D _{3/2}	30460	30323	E2	5.266e-12	5.384e-04	1.125e-03
2p ³ 2P _{1/2} ^o	2p ³ 2D _{3/2} ^o	173520	173884	M1	1.131e-06	1.140e+04	1.608e-01
2p ³ 2P _{1/2}	2p ³ 2D _{3/2}	173520	173884	E2	2.925e-09	2.950e+01	3.314e-03
2p ³ 2P _{3/2} ^o	2p ³ 2D _{5/2} ^o	143060	143561	E2	1.370e-09	9.414e+00	2.757e-03
2p ³ 2P _{3/2}	2p ³ 2D _{5/2}	201150	201466	M1	3.047e-06	2.062e+04	3.740e-01
2p ³ 2P _{3/2} ^o	2p ³ 2D _{5/2}	201150	201466	E2	1.039e-08	7.032e+01	7.567e-03
2p ³ 2P _{3/2} ^o	2p ³ 2P _{1/2} ^o	58090	57905	M1	2.499e-06	1.397e+03	1.067e+00
2p ³ 2P _{3/2}	2p ³ 2P _{1/2}	58090	57905	E2	2.263e-11	1.265e-02	6.942e-04
Co XXIII							
2s ² 2p ² 2P _{3/2} ^o	2s ² 2p ² 2P _{1/2} ^o	139290	139712	M1	7.496e-06	2.440e+04	1.327e+00

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s^2 2p^2 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^2P_{1/2}^o$	139290	139712	E2	8.176e-10	2.661e+00	1.786e-03
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	431560	430472	E1	1.887e-03	1.166e+08	1.443e-03
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	499270	498309	E1	6.951e-05	2.878e+06	4.592e-05
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	499270	498309	M2	2.209e-10	9.148e+00	7.988e-01
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	559760	559265	M2	3.016e-10	1.049e+01	7.714e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	788520	788545	E1	1.196e-01	1.240e+10	4.991e-02
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	788520	788545	M2	4.474e-12	4.639e-01	4.082e-03
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	819150	819221	M2	6.283e-10	4.687e+01	5.112e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	903260	903830	E1	1.528e-01	4.163e+10	5.566e-02
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	1050860	1051638	E1	4.894e-03	1.805e+09	1.532e-03
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	1064960	1065389	E1	3.352e-02	6.344e+09	1.036e-02
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	1064960	1065389	M2	1.210e-10	2.291e+01	4.477e-02
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	292270	290760	E1	5.389e-04	1.519e+07	6.101e-04
$2s2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	292270	290760	M2	4.292e-12	1.210e-01	7.811e-02
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	359980	358597	E1	5.081e-04	1.089e+07	4.664e-04
$2s2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	359980	358597	M2	2.725e-12	5.844e-02	2.644e-02
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	420470	419553	E1	5.251e-03	1.027e+08	4.120e-03
$2s2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	420470	419553	M2	1.438e-10	2.815e+00	8.713e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	649230	648833	E1	8.980e-05	6.304e+06	4.556e-05
$2s2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	649230	648833	M2	4.180e-11	2.934e+00	6.846e-02
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	679860	679509	E1	1.239e-01	6.360e+09	6.002e-02
$2s2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	679860	679509	M2	9.783e-10	5.022e+01	1.395e+00
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	763970	764118	E1	9.863e-04	1.921e+08	4.249e-04
$2s2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	763970	764118	M2	1.238e-11	2.410e+00	1.241e-02
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	911570	911926	E1	1.309e-01	3.631e+10	4.727e-02
$2s2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	911570	911926	M2	4.679e-10	1.298e+02	2.760e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	925670	925676	E1	3.359e-01	4.800e+10	1.195e-01
$2s2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	925670	925676	M2	5.397e-10	7.712e+01	3.044e-01
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	67710	67837	M1	8.638e-06	6.629e+03	3.149e+00
$2s2p^2 \ ^4P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	67710	67837	E2	1.111e-11	8.528e-03	2.120e-04
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	128200	128793	E2	6.877e-10	1.268e+00	1.917e-03
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	356960	358073	M1	2.433e-07	5.202e+03	1.680e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	356960	358073	E2	8.783e-10	1.878e+01	1.139e-04
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{1/2}$	387590	388749	E2	5.632e-11	9.463e-01	5.710e-06
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	633400	634916	M1	5.628e-08	3.783e+03	2.192e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{1/2}$	633400	634916	E2	7.760e-11	5.216e+00	1.806e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	907200	907472	E1	8.142e-02	1.118e+10	2.954e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	907200	907472	M2	3.674e-10	5.045e+01	2.199e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	1054790	1055662	E1	5.378e-04	9.994e+07	1.677e-04
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	1054790	1055662	M2	1.199e-09	2.227e+02	4.558e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{1/2}$	1091590	1092791	M2	1.360e-10	1.805e+01	4.661e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{1/2}$	1240570	1242162	E1	5.126e-04	2.638e+08	1.359e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	1314310	1315636	E1	3.332e-05	9.618e+06	8.338e-06
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{1/2}$	1314310	1315636	M2	4.984e-12	1.439e+00	9.792e-04
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	60490	60956	M1	8.439e-06	3.486e+03	3.424e+00
$2s2p^2 \ ^4P_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	60490	60956	E2	8.539e-11	3.527e-02	2.246e-03
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	319880	320911	M1	1.978e-06	2.265e+04	1.525e-01
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^4P_{3/2}$	319880	320911	E2	1.452e-09	1.662e+01	2.616e-04
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	403990	405521	M1	1.273e-06	6.983e+04	7.764e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	403990	405521	E2	5.279e-11	2.895e+00	4.714e-06
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	551590	553329	M1	1.498e-06	1.530e+05	6.695e-02
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{3/2}$	551590	553329	E2	2.816e-10	2.875e+01	9.898e-06
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	839490	839634	E1	1.290e-01	1.516e+10	5.056e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	839490	839634	M2	2.714e-10	3.191e+01	2.051e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	987080	987824	E1	2.104e-02	3.424e+09	7.012e-03
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	987080	987824	M2	1.209e-09	1.968e+02	5.612e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	1023880	1024953	E1	4.883e-04	5.703e+07	1.568e-04
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{3/2}$	1023880	1024953	M2	9.479e-10	1.107e+02	3.938e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	1172860	1174325	E1	1.505e-04	6.922e+07	4.219e-05
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{3/2}$	1172860	1174325	M2	7.871e-10	3.620e+02	2.175e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	1246600	1247798	E1	1.429e-03	3.709e+08	3.769e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{3/2}$	1246600	1247798	M2	2.323e-10	6.032e+01	5.349e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	228760	229280	M1	7.825e-07	6.859e+03	8.439e-02
$2s2p^2 \ ^2D_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	228760	229280	E2	3.932e-10	3.447e+00	1.943e-04
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	343500	344564	E2	7.818e-11	3.096e+00	1.138e-05
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^4P_{5/2}$	491100	492372	E2	1.623e-09	1.312e+02	8.099e-05
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	505200	506123	M1	2.084e-08	8.903e+02	1.018e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^4P_{5/2}$	505200	506123	E2	5.694e-10	2.432e+01	2.615e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	779000	778678	E1	1.956e-01	1.977e+10	8.268e-02
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	779000	778678	M2	3.613e-10	3.653e+01	3.423e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	926590	926868	E1	3.029e-03	4.339e+08	1.076e-03
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	926590	926868	M2	1.082e-10	1.550e+01	6.078e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	963390	963997	E1	2.589e-02	2.675e+09	8.842e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^4P_{5/2}$	963390	963997	M2	1.855e-09	1.916e+02	9.264e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^4P_{5/2}$	1112370	1113368	M2	6.414e-10	2.652e+02	2.079e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	1186110	1186842	E1	6.584e-04	1.546e+08	1.826e-04
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^4P_{5/2}$	1186110	1186842	M2	1.591e-09	3.736e+02	4.256e-01
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	30630	30675	M1	2.699e-06	2.823e+02	2.176e+00
$2s2p^2 \ ^2D_{5/2}$	$2s2p^2 \ ^2D_{3/2}$	30630	30675	E2	6.829e-12	7.144e-04	1.409e-03
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	114740	115284	M1	1.856e-07	8.228e+02	3.982e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	114740	115284	E2	3.760e-10	1.667e+00	1.462e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	262340	263092	M1	3.470e-07	8.012e+03	3.262e-02
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{3/2}$	262340	263092	E2	4.327e-09	9.989e+01	1.415e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	550240	549398	E1	4.661e-03	2.346e+08	2.793e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	550240	549398	M2	7.374e-12	3.711e-01	1.989e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	697830	697588	E1	9.093e-02	7.378e+09	4.291e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	697830	697588	M2	1.095e-10	8.888e+00	1.444e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	734630	734716	E1	6.760e-02	4.056e+09	3.029e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{3/2}$	734630	734716	M2	5.556e-10	3.334e+01	6.267e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	883610	884088	E1	1.179e-01	3.072e+10	4.389e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{3/2}$	883610	884088	M2	2.239e-12	5.836e-01	1.450e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	957350	957561	E1	3.342e-02	5.111e+09	1.149e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{3/2}$	957350	957561	M2	1.168e-10	1.787e+01	5.954e-02
$2s2p^2 \ ^2P_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	84110	84609	E2	1.728e-10	4.126e-01	1.699e-03
$2s2p^2 \ ^2S_{1/2}$	$2s2p^2 \ ^2D_{5/2}$	231710	232417	E2	5.847e-09	1.053e+02	2.774e-03
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	245810	246167	M1	1.478e-06	1.494e+04	1.485e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2D_{5/2}$	245810	246167	E2	7.384e-11	7.462e-01	2.948e-05
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	519610	518723	E1	5.089e-04	2.283e+07	3.230e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	519610	518723	M2	9.518e-12	4.271e-01	3.051e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	667200	666913	E1	6.928e-02	5.138e+09	3.420e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	667200	666913	M2	1.609e-10	1.193e+01	2.426e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	704000	704041	E1	2.333e-01	1.286e+10	1.091e-01
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2D_{5/2}$	704000	704041	M2	4.457e-10	2.456e+01	5.713e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2D_{5/2}$	852980	853413	M2	1.854e-10	4.503e+01	1.335e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	926720	926886	E1	1.000e-01	1.433e+10	3.553e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2D_{5/2}$	926720	926886	M2	1.481e-09	2.122e+02	8.322e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	161700	161558	M1	5.434e-06	2.365e+04	8.318e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	161700	161558	E2	4.482e-10	1.951e+00	6.330e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	435500	434113	E1	6.900e-03	2.169e+08	5.233e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	435500	434113	M2	6.660e-11	2.093e+00	3.642e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	583090	582303	E1	1.285e-01	7.269e+09	7.268e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	583090	582303	M2	1.526e-14	8.631e-04	3.459e-05
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{1/2}$	619890	619432	M2	5.985e-11	2.553e+00	1.127e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{1/2}$	768870	768803	E1	1.731e-02	3.411e+09	7.410e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	842610	842277	E1	2.884e-02	3.412e+09	1.127e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	842610	842277	M2	2.406e-10	2.846e+01	1.801e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	14100	13750	M1	2.410e-07	7.599e+00	4.334e-01

Continued. . .

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2\ ^2P_{3/2}$	$2s2p^2\ ^2S_{1/2}$	14100	13750	E2	5.582e-13	1.760e-05	1.279e-03
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	287900	286305	E1	9.701e-04	1.326e+07	1.115e-03
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	287900	286305	M2	2.653e-12	3.626e-02	5.057e-02
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	435490	434495	E1	1.889e-02	5.946e+08	1.431e-02
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	435490	434495	M2	7.906e-12	2.489e-01	4.312e-02
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2S_{1/2}$	472290	471624	M2	7.659e-12	1.894e-01	3.266e-02
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2S_{1/2}$	621270	620995	E1	8.680e-02	1.116e+10	4.602e-02
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	695010	694469	E1	2.837e-02	2.281e+09	1.345e-02
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	695010	694469	M2	3.213e-10	2.584e+01	4.292e-01
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	273800	272555	E1	2.772e-03	3.434e+07	3.348e-03
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	273800	272555	M2	9.386e-12	1.163e-01	2.074e-01
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	421390	420745	E1	1.757e-03	5.187e+07	1.375e-03
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	421390	420745	M2	1.288e-11	3.802e-01	7.735e-02
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{3/2}$	458190	457873	E1	1.417e-01	3.302e+09	1.019e-01
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{3/2}$	458190	457873	M2	9.331e-12	2.175e-01	4.349e-02
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{3/2}$	607170	607245	E1	1.592e-02	1.958e+09	8.631e-03
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{3/2}$	607170	607245	M2	5.999e-12	7.377e-01	1.199e-02
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	680910	680718	E1	2.732e-01	2.111e+10	1.321e-01
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	680910	680718	M2	1.195e-10	9.231e+00	1.694e-01
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^4S_{3/2}^o$	184390	185318	M1	5.142e-07	1.963e+03	6.862e-02
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^4S_{3/2}^o$	184390	185318	E2	7.988e-10	3.050e+00	7.475e-04
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^4S_{3/2}^o$	333370	334689	M1	1.718e-06	6.418e+04	1.269e-01
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^4S_{3/2}^o$	333370	334689	E2	5.378e-10	2.009e+01	8.544e-05
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^2D_{3/2}^o$	36800	37128	M1	2.874e-06	4.404e+02	1.914e+00
$2p^3\ ^2D_{5/2}^o$	$2p^3\ ^2D_{3/2}^o$	36800	37128	E2	8.379e-12	1.284e-03	9.750e-04
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{3/2}^o$	185780	186499	M1	1.244e-06	1.443e+04	1.649e-01
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{3/2}^o$	185780	186499	E2	2.956e-09	3.429e+01	2.714e-03
$2p^3\ ^2P_{1/2}^o$	$2p^3\ ^2D_{5/2}^o$	148980	149371	E2	1.306e-09	9.716e+00	2.333e-03
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2D_{5/2}^o$	222720	222844	M1	3.738e-06	3.096e+04	4.148e-01
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2D_{5/2}^o$	222720	222844	E2	1.153e-08	9.547e+01	6.205e-03
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2P_{1/2}^o$	73740	73473	M1	3.077e-06	2.770e+03	1.036e+00
$2p^3\ ^2P_{3/2}^o$	$2p^3\ ^2P_{1/2}^o$	73740	73473	E2	4.292e-11	3.863e-02	6.444e-04
Ni XXIV							
$2s^22p\ ^2P_{3/2}^o$	$2s^22p\ ^2P_{1/2}^o$	163960	163981	M1	8.795e-06	3.944e+04	1.326e+00
$2s^22p\ ^2P_{3/2}^o$	$2s^22p\ ^2P_{1/2}^o$	163960	163981	E2	1.126e-09	5.048e+00	1.521e-03
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	457440	457404	E1	2.314e-03	1.614e+08	1.665e-03
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	539715	539645	E1	8.396e-05	4.077e+06	5.122e-05
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	539715	539645	M2	2.588e-10	1.257e+01	7.368e-01
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{1/2}^o$	608975	608887	M2	3.768e-10	1.553e+01	7.467e-01
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	843500	843734	E1	1.212e-01	1.439e+10	4.731e-02
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	843500	843734	M2	3.622e-12	4.299e-01	2.698e-03
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{1/2}^o$	884100	884282	M2	6.668e-10	5.796e+01	4.314e-01
$2s2p^2\ ^2P_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	955790	956144	E1	1.496e-01	4.561e+10	5.151e-02
$2s2p^2\ ^2S_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	1129710	1130168	E1	3.763e-03	1.603e+09	1.096e-03
$2s2p^2\ ^2P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	1143250	1143664	E1	3.017e-02	6.581e+09	8.686e-03
$2s2p^2\ ^2P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	1143250	1143664	M2	1.318e-10	2.876e+01	3.943e-02
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	293480	293423	E1	5.768e-04	1.656e+07	6.471e-04
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	293480	293423	M2	3.860e-12	1.108e-01	6.835e-02
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	375755	375663	E1	5.905e-04	1.390e+07	5.175e-04
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	375755	375663	M2	2.696e-12	6.344e-02	2.275e-02
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	445015	444905	E1	6.472e-03	1.424e+08	4.789e-03
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	445015	444905	M2	1.444e-10	3.177e+00	7.335e-01
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	679540	679752	E1	1.182e-06	9.105e+04	5.723e-07
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	679540	679752	M2	4.031e-11	3.106e+00	5.742e-02
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	720140	720301	E1	1.194e-01	6.888e+09	5.458e-02
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	720140	720301	M2	1.124e-09	6.484e+01	1.346e+00
$2s2p^2\ ^2P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	791830	792163	E1	1.556e-03	3.258e+08	6.469e-04

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2P _{1/2}	2s ² 2p 2P _{3/2} ^o	791830	792163	M2	1.124e-11	2.353e+00	1.012e-02
2s2p ² 2S _{1/2}	2s ² 2p 2P _{3/2} ^o	965750	966186	E1	1.268e-01	3.947e+10	4.320e-02
2s2p ² 2S _{1/2}	2s ² 2p 2P _{3/2} ^o	965750	966186	M2	5.270e-10	1.641e+02	2.614e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P _{3/2} ^o	979290	979682	E1	3.294e-01	5.272e+10	1.107e-01
2s2p ² 2P _{3/2}	2s ² 2p 2P _{3/2} ^o	979290	979682	M2	6.035e-10	9.659e+01	2.872e-01
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	82275	82240	M1	1.035e-05	1.167e+04	3.112e+00
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	82275	82240	E2	1.692e-11	1.909e-02	1.812e-04
2s2p ² 4P _{5/2}	2s2p ² 4P _{1/2}	151535	151482	E2	9.611e-10	2.452e+00	1.647e-03
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	386060	386329	M1	3.116e-07	7.755e+03	1.995e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	386060	386329	E2	1.143e-09	2.845e+01	1.181e-04
2s2p ² 2D _{5/2}	2s2p ² 4P _{1/2}	426660	426878	E2	5.900e-11	1.195e+00	4.518e-06
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	685810	686259	M1	6.630e-08	5.207e+03	2.389e-03
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	685810	686259	E2	8.583e-11	6.741e+00	1.582e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	966460	966439	E1	8.060e-02	1.255e+10	2.746e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{1/2}	966460	966439	M2	4.855e-10	7.561e+01	2.406e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	1124460	1124406	E1	8.879e-04	1.872e+08	2.600e-04
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{1/2}	1124460	1124406	M2	1.244e-09	2.624e+02	3.916e-01
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{1/2}	1168760	1168776	M2	1.456e-10	2.212e+01	4.081e-02
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{1/2}	1323660	1323926	E1	5.441e-04	3.180e+08	1.353e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	1415560	1415820	E1	3.493e-05	1.168e+07	8.122e-06
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{1/2}	1415560	1415820	M2	7.929e-12	2.651e+00	1.250e-03
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	69260	69241	M1	9.459e-06	5.042e+03	3.378e+00
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	69260	69241	E2	1.032e-10	5.500e-02	1.851e-03
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	344385	344637	M1	2.703e-06	3.569e+04	1.939e-01
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	344385	344637	E2	1.888e-09	2.493e+01	2.747e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	416075	416499	M1	1.559e-06	9.021e+04	9.258e-02
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	416075	416499	E2	6.532e-11	3.779e+00	5.384e-06
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	589995	590522	M1	1.963e-06	2.283e+05	8.221e-02
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	589995	590522	E2	3.396e-10	3.950e+01	9.823e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	884185	884198	E1	1.202e-01	1.566e+10	4.474e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	884185	884198	M2	2.556e-10	3.332e+01	1.654e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	1042185	1042166	E1	2.715e-02	4.918e+09	8.578e-03
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	1042185	1042166	M2	1.369e-09	2.479e+02	5.409e-01
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	1086485	1086536	E1	5.687e-04	7.464e+07	1.723e-04
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	1086485	1086536	M2	1.050e-09	1.378e+02	3.663e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	1241385	1241685	E1	1.750e-04	8.998e+07	4.639e-05
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	1241385	1241685	M2	8.707e-10	4.477e+02	2.035e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	1333285	1333579	E1	1.465e-03	4.345e+08	3.617e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	1333285	1333579	M2	2.584e-10	7.664e+01	4.875e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	234525	234846	M1	1.030e-06	9.468e+03	1.084e-01
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	234525	234846	E2	4.344e-10	3.996e+00	1.998e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	346815	347257	E2	7.481e-11	3.009e+00	1.064e-05
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	520735	521280	E2	2.185e-09	1.981e+02	9.189e-05
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	534275	534776	M1	1.221e-08	5.821e+02	5.644e-04
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	534275	534776	E2	7.758e-10	3.700e+01	3.021e-05
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	814925	814956	E1	1.870e-01	2.071e+10	7.555e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	814925	814956	M2	3.409e-10	3.776e+01	2.818e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	972925	972923	E1	4.527e-03	7.146e+08	1.532e-03
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	972925	972923	M2	1.715e-10	2.707e+01	8.330e-02
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	1017225	1017294	E1	3.152e-02	3.626e+09	1.020e-02
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	1017225	1017294	M2	2.112e-09	2.430e+02	8.975e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{5/2}	1172125	1172443	M2	7.354e-10	3.371e+02	2.041e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	1264025	1264337	E1	6.107e-04	1.628e+08	1.590e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	1264025	1264337	M2	1.659e-09	4.422e+02	3.672e-01
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	40600	40548	M1	3.484e-06	6.369e+02	2.125e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	40600	40548	E2	1.289e-11	2.356e-03	1.151e-03
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	112290	112410	M1	2.209e-07	9.308e+02	4.859e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	112290	112410	E2	2.887e-10	1.217e+00	1.210e-03
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	286210	286433	M1	4.317e-07	1.181e+04	3.727e-02
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	286210	286433	E2	4.729e-09	1.294e+02	1.199e-03

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	580400	580109	E1	6.475e-03	3.634e+08	3.675e-03
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	580400	580109	M2	7.884e-12	4.424e-01	1.807e-02
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	738400	738076	E1	8.384e-02	7.616e+09	3.739e-02
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	738400	738076	M2	1.279e-10	1.162e+01	1.423e-01
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	782700	782446	E1	7.224e-02	4.917e+09	3.039e-02
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	782700	782446	M2	6.186e-10	4.210e+01	5.777e-01
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	937600	937596	E1	1.169e-01	3.428e+10	4.106e-02
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	937600	937596	M2	1.851e-12	5.427e-01	1.005e-03
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	1029500	1029490	E1	3.105e-02	5.488e+09	9.929e-03
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2D_{3/2}$	1029500	1029490	M2	1.291e-10	2.283e+01	5.295e-02
$2s2p^2\ 2P_{1/2}$	$2s2p^2\ 2D_{5/2}$	71690	71862	E2	8.357e-11	1.439e-01	1.341e-03
$2s2p^2\ 2S_{1/2}$	$2s2p^2\ 2D_{5/2}$	245610	245885	E2	6.040e-09	1.218e+02	2.420e-03
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2D_{5/2}$	259150	259381	M1	1.870e-06	2.098e+04	1.783e-01
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2D_{5/2}$	259150	259381	E2	9.114e-11	1.023e+00	3.111e-05
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	539800	539561	E1	7.127e-04	3.460e+07	4.348e-04
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	539800	539561	M2	1.260e-11	6.119e-01	3.590e-02
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	697800	697528	E1	6.925e-02	5.618e+09	3.268e-02
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	697800	697528	M2	1.471e-10	1.193e+01	1.939e-01
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	742100	741898	E1	2.225e-01	1.362e+10	9.874e-02
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	742100	741898	M2	4.412e-10	2.699e+01	4.833e-01
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	897000	897048	M2	1.845e-10	4.950e+01	1.143e-01
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	988900	988941	E1	9.488e-02	1.547e+10	3.159e-02
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2D_{5/2}$	988900	988941	M2	1.791e-09	2.921e+02	8.283e-01
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2P_{1/2}$	187460	187519	M1	6.499e-06	3.811e+04	8.571e-01
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2P_{1/2}$	187460	187519	E2	5.956e-10	3.493e+00	5.380e-04
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	468110	467699	E1	9.460e-03	3.451e+08	6.659e-03
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	468110	467699	M2	7.729e-11	2.819e+00	3.380e-01
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	626110	625666	E1	1.285e-01	8.392e+09	6.764e-02
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	626110	625666	M2	1.129e-12	7.370e-02	2.062e-03
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	670410	670036	M2	7.324e-11	3.655e+00	1.089e-01
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	825310	825186	E1	1.912e-02	4.342e+09	7.628e-03
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	917210	917079	E1	2.430e-02	3.408e+09	8.724e-03
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2P_{1/2}$	917210	917079	M2	2.492e-10	3.495e+01	1.446e-01
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2S_{1/2}$	13540	13495	M1	2.162e-07	6.567e+00	3.962e-01
$2s2p^2\ 2P_{3/2}$	$2s2p^2\ 2S_{1/2}$	13540	13495	E2	4.558e-13	1.384e-05	1.104e-03
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	294190	293675	E1	1.088e-03	1.564e+07	1.219e-03
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	294190	293675	M2	1.880e-12	2.704e-02	3.321e-02
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	452190	451643	E1	1.515e-02	5.155e+08	1.105e-02
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	452190	451643	M2	9.282e-12	3.157e-01	4.508e-02
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	496490	496013	M2	7.293e-12	1.995e-01	2.674e-02
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	651390	651162	E1	8.219e-02	1.162e+10	4.156e-02
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	743290	743056	E1	3.082e-02	2.838e+09	1.366e-02
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2S_{1/2}$	743290	743056	M2	3.736e-10	3.440e+01	4.074e-01
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2P_{3/2}$	280650	280179	E1	2.956e-03	3.870e+07	3.474e-03
$2p^3\ 4S_{3/2}^{\circ}$	$2s2p^2\ 2P_{3/2}$	280650	280179	M2	8.248e-12	1.080e-01	1.678e-01
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2P_{3/2}$	438650	438147	E1	1.779e-03	5.695e+07	1.337e-03
$2p^3\ 2D_{3/2}^{\circ}$	$2s2p^2\ 2P_{3/2}$	438650	438147	M2	1.479e-11	4.734e-01	7.866e-02
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2P_{3/2}$	482950	482517	E1	1.344e-01	3.479e+09	9.172e-02
$2p^3\ 2D_{5/2}^{\circ}$	$2s2p^2\ 2P_{3/2}$	482950	482517	M2	8.691e-12	2.250e-01	3.461e-02
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2P_{3/2}$	637850	637666	E1	1.384e-02	1.877e+09	7.146e-03
$2p^3\ 2P_{1/2}^{\circ}$	$2s2p^2\ 2P_{3/2}$	637850	637666	M2	6.224e-12	8.441e-01	1.074e-02
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2P_{3/2}$	729750	729560	E1	2.723e-01	2.417e+10	1.229e-01
$2p^3\ 2P_{3/2}^{\circ}$	$2s2p^2\ 2P_{3/2}$	729750	729560	M2	1.435e-10	1.274e+01	1.653e-01
$2p^3\ 2D_{5/2}^{\circ}$	$2p^3\ 4S_{3/2}^{\circ}$	202300	202337	M1	8.068e-07	3.672e+03	9.861e-02
$2p^3\ 2D_{5/2}^{\circ}$	$2p^3\ 4S_{3/2}^{\circ}$	202300	202337	E2	1.102e-09	5.017e+00	7.925e-04
$2p^3\ 2P_{1/2}^{\circ}$	$2p^3\ 4S_{3/2}^{\circ}$	357200	357487	M1	2.287e-06	9.747e+04	1.582e-01
$2p^3\ 2P_{1/2}^{\circ}$	$2p^3\ 4S_{3/2}^{\circ}$	357200	357487	E2	8.151e-10	3.474e+01	1.063e-04

Continued. . .

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	gf	A (s ⁻¹)	S
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	44300	44370	M1	3.313e-06	7.251e+02	1.846e+00
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	44300	44370	E2	1.205e-11	2.637e-03	8.214e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	199200	199519	M1	1.317e-06	1.749e+04	1.633e-01
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	199200	199519	E2	2.975e-09	3.950e+01	2.231e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{5/2}^o$	154900	155149	E2	1.247e-09	1.001e+01	1.988e-03
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	246800	247043	M1	4.518e-06	4.598e+04	4.522e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	246800	247043	E2	1.297e-08	1.320e+02	5.124e-03
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	91900	91893	M1	3.736e-06	5.261e+03	1.005e+00
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	91900	91893	E2	7.724e-11	1.088e-01	5.928e-04
Cu XXV							
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	191280	191329	M1	1.026e-05	6.261e+04	1.326e+00
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	191280	191329	E2	1.532e-09	9.351e+00	1.303e-03
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	485730	485322	E1	2.803e-03	2.202e+08	1.902e-03
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	584920	584451	E1	1.005e-04	5.727e+06	5.663e-05
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	584920	584451	M2	3.041e-10	1.732e+01	6.814e-01
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	662770	662336	M2	4.701e-10	2.293e+01	7.238e-01
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	-	902458	E1	1.231e-01	1.672e+10	4.492e-02
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	-	902458	M2	2.768e-12	3.759e-01	1.685e-03
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	-	955308	M2	7.046e-10	7.148e+01	3.615e-01
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	-	1011360	E1	1.465e-01	4.999e+10	4.770e-02
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	-	1214962	E1	2.916e-03	1.436e+09	7.902e-04
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	-	1228156	E1	2.709e-02	6.813e+09	7.261e-03
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{1/2}^o$	-	1228156	M2	1.435e-10	3.609e+01	3.465e-02
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	294450	293992	E1	6.049e-04	1.744e+07	6.774e-04
$2s^2 2p^2 \ ^4P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	294450	293992	M2	3.399e-12	9.797e-02	5.984e-02
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	393640	393122	E1	6.790e-04	1.750e+07	5.686e-04
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	393640	393122	M2	2.656e-12	6.846e-02	1.956e-02
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	471490	471007	E1	7.852e-03	1.936e+08	5.488e-03
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	471490	471007	M2	1.432e-10	3.531e+00	6.130e-01
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	-	711129	E1	1.288e-04	1.086e+07	5.962e-05
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	-	711129	M2	3.860e-11	3.255e+00	4.802e-02
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	-	763978	E1	1.152e-01	7.473e+09	4.963e-02
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	-	763978	M2	1.296e-09	8.410e+01	1.300e+00
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	-	820031	E1	2.156e-03	4.836e+08	8.657e-04
$2s^2 2p^2 \ ^2P_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	-	820031	M2	1.035e-11	2.322e+00	8.401e-03
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	-	1023633	E1	1.230e-01	4.299e+10	3.956e-02
$2s^2 2p^2 \ ^2S_{1/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	-	1023633	M2	5.942e-10	2.076e+02	2.478e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	-	1036827	E1	3.237e-01	5.803e+10	1.028e-01
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^2P_{3/2}^o$	-	1036827	M2	6.758e-10	1.211e+02	2.712e-01
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	99190	99129	M1	1.231e-05	2.018e+04	3.072e+00
$2s^2 2p^2 \ ^4P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	99190	99129	E2	2.547e-11	4.174e-02	1.557e-04
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	177040	177014	E2	1.326e-09	4.620e+00	1.424e-03
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	-	417136	M1	3.952e-07	1.147e+04	2.343e-02
$2s^2 2p^2 \ ^2D_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	-	417136	E2	1.481e-09	4.296e+01	1.215e-04
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	-	469986	E2	5.996e-11	1.472e+00	3.440e-06
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	-	742834	M1	7.634e-08	7.024e+03	2.541e-03
$2s^2 2p^2 \ ^2P_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	-	742834	E2	9.373e-11	8.625e+00	1.362e-06
$2p^3 \ ^4S_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	1028050	1028136	E1	7.998e-02	1.410e+10	2.561e-02
$2p^3 \ ^4S_{3/2}$	$2s^2 2p^2 \ ^4P_{1/2}$	1028050	1028136	M2	6.353e-10	1.120e+02	2.615e-01
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	-	1198447	E1	1.346e-03	3.224e+08	3.698e-04
$2p^3 \ ^2D_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	-	1198447	M2	1.278e-09	3.062e+02	3.323e-01
$2p^3 \ ^2D_{5/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	-	1250288	M2	1.557e-10	2.705e+01	3.563e-02
$2p^3 \ ^2P_{1/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	-	1411187	E1	5.663e-04	3.761e+08	1.321e-04
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	-	1524625	E1	3.538e-05	1.371e+07	7.639e-06
$2p^3 \ ^2P_{3/2}^o$	$2s^2 2p^2 \ ^4P_{1/2}$	-	1524625	M2	1.110e-11	4.302e+00	1.401e-03
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	77850	77885	M1	1.047e-05	7.064e+03	3.326e+00
$2s^2 2p^2 \ ^4P_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	77850	77885	E2	1.212e-10	8.175e-02	1.528e-03
$2s^2 2p^2 \ ^2D_{5/2}$	$2s^2 2p^2 \ ^4P_{3/2}$	-	370857	M1	3.633e-06	5.555e+04	2.422e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	–	370857	E2	2.444e-09	3.737e+01	2.854e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	–	426909	M1	1.890e-06	1.149e+05	1.095e-01
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	–	426909	E2	7.888e-11	4.794e+00	6.038e-06
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	–	630510	M1	2.525e-06	3.348e+05	9.905e-02
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	–	630510	E2	4.087e-10	5.419e+01	9.712e-06
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	928860	929006	E1	1.110e-01	1.597e+10	3.932e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{3/2}	928860	929006	M2	2.338e-10	3.364e+01	1.304e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	–	1099318	E1	3.408e-02	6.868e+09	1.021e-02
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{3/2}	–	1099318	M2	1.553e-09	3.130e+02	5.230e-01
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	–	1151159	E1	6.557e-04	9.659e+07	1.875e-04
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{3/2}	–	1151159	M2	1.165e-09	1.717e+02	3.417e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	–	1312058	E1	2.014e-04	1.156e+08	5.054e-05
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{3/2}	–	1312058	M2	9.645e-10	5.537e+02	1.910e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	–	1425496	E1	1.483e-03	5.025e+08	3.425e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{3/2}	–	1425496	M2	2.848e-10	9.650e+01	4.399e-02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	–	240121	M1	1.324e-06	1.273e+04	1.364e-01
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	–	240121	E2	4.724e-10	4.542e+00	2.032e-04
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	–	349023	E2	6.959e-11	2.827e+00	9.748e-06
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	–	552624	E2	2.905e-09	2.959e+02	1.025e-04
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	–	565819	M1	3.991e-09	2.130e+02	1.744e-04
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	–	565819	E2	1.046e-09	5.584e+01	3.439e-05
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	851010	851120	E1	1.786e-01	2.157e+10	6.907e-02
2p ³ 4S _{3/2} ^o	2s2p ² 4P _{5/2}	851010	851120	M2	3.140e-10	3.793e+01	2.278e-01
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	–	1021432	E1	6.348e-03	1.105e+09	2.046e-03
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	–	1021432	M2	2.509e-10	4.365e+01	1.053e-01
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	–	1073273	E1	3.784e-02	4.846e+09	1.161e-02
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	–	1073273	M2	2.407e-09	3.082e+02	8.710e-01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{5/2}	–	1234173	M2	8.437e-10	4.286e+02	2.008e-01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	–	1347610	E1	5.416e-04	1.640e+08	1.323e-04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	–	1347610	M2	1.715e-09	5.195e+02	3.136e-01
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	–	52849	M1	4.420e-06	1.372e+03	2.068e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	–	52849	E2	2.332e-11	7.241e-03	9.408e-04
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	–	108901	M1	2.556e-07	1.011e+03	5.804e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	–	108901	E2	2.194e-10	8.679e-01	1.012e-03
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	–	312503	M1	5.321e-07	1.733e+04	4.210e-02
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	–	312503	E2	5.201e-09	1.694e+02	1.015e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	–	610999	E1	8.621e-03	5.367e+08	4.645e-03
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	–	610999	M2	8.059e-12	5.017e-01	1.581e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	–	781310	E1	7.711e-02	7.849e+09	3.249e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	–	781310	M2	1.508e-10	1.535e+01	1.414e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	–	833152	E1	7.708e-02	5.948e+09	3.046e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	–	833152	M2	6.901e-10	5.326e+01	5.339e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	–	994051	E1	1.162e-01	3.828e+10	3.847e-02
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	–	994051	M2	1.465e-12	4.828e-01	6.672e-04
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	–	1107489	E1	2.856e-02	5.841e+09	8.489e-03
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	–	1107489	M2	1.419e-10	2.901e+01	4.672e-02
2s2p ² 2P _{1/2}	2s2p ² 2D _{5/2}	–	56052	E2	3.158e-11	3.309e-02	1.068e-03
2s2p ² 2S _{1/2}	2s2p ² 2D _{5/2}	–	259653	E2	6.200e-09	1.394e+02	2.109e-03
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	–	272848	M1	2.322e-06	2.883e+04	2.104e-01
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	–	272848	E2	1.080e-10	1.341e+00	3.167e-05
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	–	558149	E1	9.468e-04	4.919e+07	5.584e-04
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	–	558149	M2	1.586e-11	8.240e-01	4.081e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	–	728460	E1	6.885e-02	6.092e+09	3.111e-02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	–	728460	M2	1.320e-10	1.168e+01	1.528e-01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	–	780302	E1	2.117e-01	1.433e+10	8.930e-02
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	–	780302	M2	4.311e-10	2.918e+01	4.059e-01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{5/2}	–	941201	M2	1.813e-10	5.356e+01	9.728e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	–	1054639	E1	9.064e-02	1.681e+10	2.829e-02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	–	1054639	M2	2.156e-09	3.999e+02	8.223e-01

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	–	216796	M1	7.701e-06	6.036e+04	8.784e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2P_{1/2}$	–	216796	E2	7.822e-10	6.130e+00	4.572e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	–	502097	E1	1.248e-02	5.246e+08	8.182e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	–	502097	M2	8.739e-11	3.674e+00	3.089e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	–	672408	E1	1.273e-01	9.600e+09	6.234e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	–	672408	M2	4.865e-12	3.668e-01	7.159e-03
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{1/2}$	–	724250	M2	8.932e-11	5.208e+00	1.052e-01
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{1/2}$	–	885149	E1	2.081e-02	5.437e+09	7.739e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	–	998587	E1	2.056e-02	3.418e+09	6.777e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{1/2}$	–	998587	M2	2.597e-10	4.318e+01	1.167e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	–	13194	M1	1.933e-07	5.611e+00	3.623e-01
$2s2p^2 \ ^2P_{3/2}$	$2s2p^2 \ ^2S_{1/2}$	–	13194	E2	3.711e-13	1.077e-05	9.623e-04
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	–	298496	E1	1.178e-03	1.750e+07	1.299e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	–	298496	M2	1.231e-12	1.828e-02	2.070e-02
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	–	468807	E1	1.213e-02	4.444e+08	8.516e-03
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	–	468807	M2	1.044e-11	3.825e-01	4.531e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2S_{1/2}$	–	520648	M2	6.933e-12	2.089e-01	2.198e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2S_{1/2}$	–	681547	E1	7.797e-02	1.208e+10	3.766e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	–	794985	E1	3.298e-02	3.476e+09	1.366e-02
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2S_{1/2}$	–	794985	M2	4.331e-10	4.564e+01	3.856e-01
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	285301	E1	3.054e-03	4.146e+07	3.525e-03
$2p^3 \ ^4S_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	285301	M2	6.959e-12	9.446e-02	1.341e-01
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	455612	E1	1.919e-03	6.642e+07	1.386e-03
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	455612	M2	1.665e-11	5.765e-01	7.878e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	507454	E1	1.275e-01	3.649e+09	8.270e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	507454	M2	8.004e-12	2.291e-01	2.740e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	668353	E1	1.196e-02	1.783e+09	5.894e-03
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	668353	M2	6.410e-12	9.550e-01	9.606e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	781791	E1	2.717e-01	2.769e+10	1.144e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	781791	M2	1.725e-10	1.759e+01	1.616e-01
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	–	222152	M1	1.217e-06	6.680e+03	1.355e-01
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	–	222152	E2	1.522e-09	8.350e+00	8.268e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	–	383051	M1	2.987e-06	1.462e+05	1.928e-01
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	–	383051	E2	1.196e-09	5.852e+01	1.267e-04
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	–	51841	M1	3.722e-06	1.112e+03	1.776e+00
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	–	51841	E2	1.576e-11	4.707e-03	6.735e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	–	212740	M1	1.346e-06	2.031e+04	1.564e-01
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	–	212740	E2	2.975e-09	4.491e+01	1.840e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{5/2}^o$	–	160899	E2	1.192e-09	1.029e+01	1.704e-03
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	–	274336	M1	5.391e-06	6.766e+04	4.859e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	–	274336	E2	1.478e-08	1.854e+02	4.262e-03
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	–	113437	M1	4.482e-06	9.617e+03	9.770e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	–	113437	E2	1.327e-10	2.847e-01	5.414e-04
Zn XXVI							
$2s^22p \ ^2P_{3/2}^o$	$2s^22p \ ^2P_{1/2}^o$	–	222016	M1	1.190e-05	9.777e+04	1.325e+00
$2s^22p \ ^2P_{3/2}^o$	$2s^22p \ ^2P_{1/2}^o$	–	222016	E2	2.062e-09	1.695e+01	1.122e-03
$2s2p^2 \ ^4P_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	–	513737	E1	3.351e-03	2.950e+08	2.148e-03
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	–	632555	E1	1.192e-04	7.955e+06	6.205e-05
$2s2p^2 \ ^4P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	–	632555	M2	3.575e-10	2.385e+01	6.319e-01
$2s2p^2 \ ^4P_{5/2}$	$2s^22p \ ^2P_{1/2}^o$	–	719349	M2	5.840e-10	3.359e+01	7.018e-01
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	–	964556	E1	1.251e-01	1.941e+10	4.270e-02
$2s2p^2 \ ^2D_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	–	964556	M2	1.951e-12	3.027e-01	9.725e-04
$2s2p^2 \ ^2D_{5/2}$	$2s^22p \ ^2P_{1/2}^o$	–	1032523	M2	7.401e-10	8.772e+01	3.008e-01
$2s2p^2 \ ^2P_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	–	1069429	E1	1.435e-01	5.475e+10	4.418e-02
$2s2p^2 \ ^2S_{1/2}$	$2s^22p \ ^2P_{1/2}^o$	–	1306216	E1	2.276e-03	1.295e+09	5.737e-04
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	–	1319062	E1	2.425e-02	7.035e+09	6.051e-03
$2s2p^2 \ ^2P_{3/2}$	$2s^22p \ ^2P_{1/2}^o$	–	1319062	M2	1.558e-10	4.521e+01	3.037e-02

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2s2p ² 4P _{1/2}	2s ² 2p ² 2P ^o _{3/2}	–	291721	E1	6.197e–04	1.759e+07	6.994e–04
2s2p ² 4P _{1/2}	2s ² 2p ² 2P ^o _{3/2}	–	291721	M2	2.910e–12	8.258e–02	5.243e–02
2s2p ² 4P _{3/2}	2s ² 2p ² 2P ^o _{3/2}	–	410539	E1	7.718e–04	2.169e+07	6.189e–04
2s2p ² 4P _{3/2}	2s ² 2p ² 2P ^o _{3/2}	–	410539	M2	2.601e–12	7.310e–02	1.682e–02
2s2p ² 4P _{5/2}	2s ² 2p ² 2P ^o _{3/2}	–	497333	E1	9.358e–03	2.573e+08	6.195e–03
2s2p ² 4P _{5/2}	2s ² 2p ² 2P ^o _{3/2}	–	497333	M2	1.399e–10	3.846e+00	5.087e–01
2s2p ² 2D _{3/2}	2s ² 2p ² 2P ^o _{3/2}	–	742540	E1	4.501e–04	4.138e+07	1.995e–04
2s2p ² 2D _{3/2}	2s ² 2p ² 2P ^o _{3/2}	–	742540	M2	3.664e–11	3.369e+00	4.004e–02
2s2p ² 2D _{5/2}	2s ² 2p ² 2P ^o _{3/2}	–	810507	E1	1.110e–01	8.109e+09	4.510e–02
2s2p ² 2D _{5/2}	2s ² 2p ² 2P ^o _{3/2}	–	810507	M2	1.496e–09	1.093e+02	1.257e+00
2s2p ² 2P _{1/2}	2s ² 2p ² 2P ^o _{3/2}	–	847413	E1	2.768e–03	6.628e+08	1.075e–03
2s2p ² 2P _{1/2}	2s ² 2p ² 2P ^o _{3/2}	–	847413	M2	9.632e–12	2.307e+00	7.082e–03
2s2p ² 2S _{1/2}	2s ² 2p ² 2P ^o _{3/2}	–	1084200	E1	1.195e–01	4.685e+10	3.629e–02
2s2p ² 2S _{1/2}	2s ² 2p ² 2P ^o _{3/2}	–	1084200	M2	6.704e–10	2.628e+02	2.353e–01
2s2p ² 2P _{3/2}	2s ² 2p ² 2P ^o _{3/2}	–	1097046	E1	3.185e–01	6.393e+10	9.559e–02
2s2p ² 2P _{3/2}	2s ² 2p ² 2P ^o _{3/2}	–	1097046	M2	7.570e–10	1.519e+02	2.565e–01
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	–	118817	M1	1.455e–05	3.425e+04	3.027e+00
2s2p ² 4P _{3/2}	2s2p ² 4P _{1/2}	–	118817	E2	3.793e–11	8.929e–02	1.347e–04
2s2p ² 4P _{5/2}	2s2p ² 4P _{1/2}	–	205611	E2	1.810e–09	8.506e+00	1.240e–03
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	–	450819	M1	4.968e–07	1.684e+04	2.725e–02
2s2p ² 2D _{3/2}	2s2p ² 4P _{1/2}	–	450819	E2	1.906e–09	6.459e+01	1.239e–04
2s2p ² 2D _{5/2}	2s2p ² 4P _{1/2}	–	518785	E2	5.796e–11	1.734e+00	2.472e–06
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	–	805324	M1	8.595e–08	9.296e+03	2.639e–03
2s2p ² 2P _{3/2}	2s2p ² 4P _{1/2}	–	805324	E2	1.016e–10	1.098e+01	1.158e–06
2p ³ 4S ^o _{3/2}	2s2p ² 4P _{1/2}	–	1093105	E1	7.963e–02	1.587e+10	2.398e–02
2p ³ 4S ^o _{3/2}	2s2p ² 4P _{1/2}	–	1093105	M2	8.208e–10	1.636e+02	2.811e–01
2p ³ 2D ^o _{3/2}	2s2p ² 4P _{1/2}	–	1279016	E1	1.891e–03	5.159e+08	4.868e–04
2p ³ 2D ^o _{3/2}	2s2p ² 4P _{1/2}	–	1279016	M2	1.302e–09	3.552e+02	2.784e–01
2p ³ 2D ^o _{5/2}	2s2p ² 4P _{1/2}	–	1338351	M2	1.662e–10	3.309e+01	3.101e–02
2p ³ 2P ^o _{1/2}	2s2p ² 4P _{1/2}	–	1504974	E1	5.787e–04	4.371e+08	1.266e–04
2p ³ 2P ^o _{3/2}	2s2p ² 4P _{1/2}	–	1643357	E1	3.481e–05	1.568e+07	6.974e–06
2p ³ 2P ^o _{3/2}	2s2p ² 4P _{1/2}	–	1643357	M2	1.430e–11	6.438e+00	1.441e–03
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	–	86794	M1	1.146e–05	9.601e+03	3.266e+00
2s2p ² 4P _{5/2}	2s2p ² 4P _{3/2}	–	86794	E2	1.387e–10	1.161e–01	1.263e–03
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	–	399967	M1	4.803e–06	8.542e+04	2.970e–01
2s2p ² 2D _{5/2}	2s2p ² 4P _{3/2}	–	399967	E2	3.150e–09	5.602e+01	2.932e–04
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	–	436873	M1	2.265e–06	1.442e+05	1.282e–01
2s2p ² 2P _{1/2}	2s2p ² 4P _{3/2}	–	436873	E2	9.339e–11	5.944e+00	6.670e–06
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	–	673660	M1	3.197e–06	4.839e+05	1.173e–01
2s2p ² 2S _{1/2}	2s2p ² 4P _{3/2}	–	673660	E2	4.899e–10	7.414e+01	9.543e–06
2p ³ 4S ^o _{3/2}	2s2p ² 4P _{3/2}	–	974287	E1	1.017e–01	1.610e+10	3.436e–02
2p ³ 4S ^o _{3/2}	2s2p ² 4P _{3/2}	–	974287	M2	2.081e–10	3.294e+01	1.007e–01
2p ³ 2D ^o _{3/2}	2s2p ² 4P _{3/2}	–	1160198	E1	4.158e–02	9.333e+09	1.180e–02
2p ³ 2D ^o _{3/2}	2s2p ² 4P _{3/2}	–	1160198	M2	1.766e–09	3.965e+02	5.060e–01
2p ³ 2D ^o _{5/2}	2s2p ² 4P _{3/2}	–	1219534	E1	7.490e–04	1.238e+08	2.022e–04
2p ³ 2D ^o _{5/2}	2s2p ² 4P _{3/2}	–	1219534	M2	1.296e–09	2.143e+02	3.197e–01
2p ³ 2P ^o _{1/2}	2s2p ² 4P _{3/2}	–	1386156	E1	2.298e–04	1.473e+08	5.458e–05
2p ³ 2P ^o _{1/2}	2s2p ² 4P _{3/2}	–	1386156	M2	1.071e–09	6.862e+02	1.799e–01
2p ³ 2P ^o _{3/2}	2s2p ² 4P _{3/2}	–	1524539	E1	1.485e–03	5.754e+08	3.206e–04
2p ³ 2P ^o _{3/2}	2s2p ² 4P _{3/2}	–	1524539	M2	3.116e–10	1.208e+02	3.934e–02
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	–	245207	M1	1.666e–06	1.670e+04	1.680e–01
2s2p ² 2D _{3/2}	2s2p ² 4P _{5/2}	–	245207	E2	5.059e–10	5.072e+00	2.044e–04
2s2p ² 2P _{1/2}	2s2p ² 4P _{5/2}	–	350079	E2	6.254e–11	2.556e+00	8.681e–06
2s2p ² 2S _{1/2}	2s2p ² 4P _{5/2}	–	586866	E2	3.805e–09	4.370e+02	1.121e–04
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	–	599712	M1	3.540e–12	2.123e–01	1.460e–07
2s2p ² 2P _{3/2}	2s2p ² 4P _{5/2}	–	599712	E2	1.391e–09	8.343e+01	3.841e–05
2p ³ 4S ^o _{3/2}	2s2p ² 4P _{5/2}	–	887493	E1	1.704e–01	2.238e+10	6.319e–02
2p ³ 4S ^o _{3/2}	2s2p ² 4P _{5/2}	–	887493	M2	2.826e–10	3.712e+01	1.809e–01
2p ³ 2D ^o _{3/2}	2s2p ² 4P _{5/2}	–	1073404	E1	8.395e–03	1.613e+09	2.575e–03

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Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
2p ³ 2D _{3/2} ^o	2s2p ² 4P _{5/2}	–	1073404	M2	3.460e–10	6.648e+01	1.252e–01
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	–	1132740	E1	4.479e–02	6.389e+09	1.302e–02
2p ³ 2D _{5/2} ^o	2s2p ² 4P _{5/2}	–	1132740	M2	2.748e–09	3.920e+02	8.458e–01
2p ³ 2P _{1/2} ^o	2s2p ² 4P _{5/2}	–	1299362	M2	9.690e–10	5.456e+02	1.976e–01
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	–	1437745	E1	4.593e–04	1.583e+08	1.052e–04
2p ³ 2P _{3/2} ^o	2s2p ² 4P _{5/2}	–	1437745	M2	1.761e–09	6.072e+02	2.652e–01
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	–	67966	M1	5.513e–06	2.831e+03	2.006e+00
2s2p ² 2D _{5/2}	2s2p ² 2D _{3/2}	–	67966	E2	4.053e–11	2.081e–02	7.688e–04
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	–	104872	M1	2.885e–07	1.058e+03	6.803e–02
2s2p ² 2P _{1/2}	2s2p ² 2D _{3/2}	–	104872	E2	1.648e–10	6.045e–01	8.510e–04
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	–	341659	M1	6.499e–07	2.530e+04	4.704e–02
2s2p ² 2S _{1/2}	2s2p ² 2D _{3/2}	–	341659	E2	5.757e–09	2.241e+02	8.597e–04
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	–	642286	E1	1.101e–02	7.572e+08	5.642e–03
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{3/2}	–	642286	M2	7.908e–12	5.440e–01	1.335e–02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	–	828197	E1	7.079e–02	8.096e+09	2.814e–02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{3/2}	–	828197	M2	1.793e–10	2.050e+01	1.412e–01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	–	887532	E1	8.212e–02	7.191e+09	3.046e–02
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{3/2}	–	887532	M2	7.725e–10	6.765e+01	4.943e–01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	–	1054155	E1	1.155e–01	4.282e+10	3.608e–02
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{3/2}	–	1054155	M2	1.096e–12	4.061e–01	4.185e–04
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	–	1192538	E1	2.605e–02	6.177e+09	7.191e–03
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{3/2}	–	1192538	M2	1.551e–10	3.677e+01	4.090e–02
2s2p ² 2P _{1/2}	2s2p ² 2D _{5/2}	–	36906	E2	7.235e–12	3.287e–03	8.572e–04
2s2p ² 2S _{1/2}	2s2p ² 2D _{5/2}	–	273692	E2	6.319e–09	1.579e+02	1.836e–03
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	–	286538	M1	2.833e–06	3.879e+04	2.445e–01
2s2p ² 2P _{3/2}	2s2p ² 2D _{5/2}	–	286538	E2	1.224e–10	1.676e+00	3.099e–05
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	–	574319	E1	1.188e–03	6.534e+07	6.810e–04
2p ³ 4S _{3/2} ^o	2s2p ² 2D _{5/2}	–	574319	M2	1.895e–11	1.043e+00	4.476e–02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	–	760230	E1	6.821e–02	6.574e+09	2.954e–02
2p ³ 2D _{3/2} ^o	2s2p ² 2D _{5/2}	–	760230	M2	1.166e–10	1.123e+01	1.187e–01
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	–	819565	E1	2.009e–01	1.500e+10	8.070e–02
2p ³ 2D _{5/2} ^o	2s2p ² 2D _{5/2}	–	819565	M2	4.164e–10	3.110e+01	3.384e–01
2p ³ 2P _{1/2} ^o	2s2p ² 2D _{5/2}	–	986188	M2	1.762e–10	5.715e+01	8.219e–02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	–	1124571	E1	8.722e–02	1.839e+10	2.553e–02
2p ³ 2P _{3/2} ^o	2s2p ² 2D _{5/2}	–	1124571	M2	2.587e–09	5.456e+02	8.138e–01
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	–	249632	M1	9.050e–06	9.405e+04	8.965e–01
2s2p ² 2P _{3/2}	2s2p ² 2P _{1/2}	–	249632	E2	1.017e–09	1.057e+01	3.893e–04
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	–	537413	E1	1.582e–02	7.620e+08	9.692e–03
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{1/2}	–	537413	M2	9.641e–11	4.643e+00	2.779e–01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	–	723324	E1	1.253e–01	1.093e+10	5.702e–02
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{1/2}	–	723324	M2	1.255e–11	1.095e+00	1.483e–02
2p ³ 2D _{5/2} ^o	2s2p ² 2P _{1/2}	–	782659	M2	1.087e–10	7.406e+00	1.015e–01
2p ³ 2P _{1/2} ^o	2s2p ² 2P _{1/2}	–	949282	E1	2.240e–02	6.732e+09	7.769e–03
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	–	1087665	E1	1.748e–02	3.449e+09	5.291e–03
2p ³ 2P _{3/2} ^o	2s2p ² 2P _{1/2}	–	1087665	M2	2.722e–10	5.369e+01	9.463e–02
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	–	12846	M1	1.720e–07	4.733e+00	3.311e–01
2s2p ² 2P _{3/2}	2s2p ² 2S _{1/2}	–	12846	E2	3.005e–13	8.269e–06	8.443e–04
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	–	300627	E1	1.228e–03	1.851e+07	1.345e–03
2p ³ 4S _{3/2} ^o	2s2p ² 2S _{1/2}	–	300627	M2	7.317e–13	1.103e–02	1.205e–02
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	–	486537	E1	9.687e–03	3.824e+08	6.555e–03
2p ³ 2D _{3/2} ^o	2s2p ² 2S _{1/2}	–	486537	M2	1.132e–11	4.469e–01	4.398e–02
2p ³ 2D _{5/2} ^o	2s2p ² 2S _{1/2}	–	545873	M2	6.585e–12	2.181e–01	1.811e–02
2p ³ 2P _{1/2} ^o	2s2p ² 2S _{1/2}	–	712495	E1	7.413e–02	1.255e+10	3.425e–02
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	–	850878	E1	3.492e–02	4.215e+09	1.351e–02
2p ³ 2P _{3/2} ^o	2s2p ² 2S _{1/2}	–	850878	M2	5.018e–10	6.058e+01	3.644e–01
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	–	287781	E1	3.060e–03	4.225e+07	3.500e–03
2p ³ 4S _{3/2} ^o	2s2p ² 2P _{3/2}	–	287781	M2	5.647e–12	7.799e–02	1.060e–01
2p ³ 2D _{3/2} ^o	2s2p ² 2P _{3/2}	–	473691	E1	2.160e–03	8.081e+07	1.501e–03

Continued...

Table 3 (continued)

States		Energies (cm ⁻¹)		Type	<i>gf</i>	<i>A</i> (s ⁻¹)	<i>S</i>
Upper	Lower	ΔE_{obs}	ΔE_{calc}				
$2p^3 \ ^2D_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	473691	M2	1.840e-11	6.885e-01	7.744e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	533027	E1	1.209e-01	3.818e+09	7.466e-02
$2p^3 \ ^2D_{5/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	533027	M2	7.300e-12	2.306e-01	2.157e-02
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	699649	E1	1.029e-02	1.681e+09	4.844e-03
$2p^3 \ ^2P_{1/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	699649	M2	6.559e-12	1.071e+00	8.567e-03
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	838032	E1	2.716e-01	3.180e+10	1.067e-01
$2p^3 \ ^2P_{3/2}^o$	$2s2p^2 \ ^2P_{3/2}$	–	838032	M2	2.077e-10	2.433e+01	1.579e-01
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	–	245246	M1	1.766e-06	1.181e+04	1.781e-01
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^4S_{3/2}^o$	–	245246	E2	2.098e-09	1.403e+01	8.471e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	–	411868	M1	3.823e-06	2.163e+05	2.296e-01
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^4S_{3/2}^o$	–	411868	E2	1.700e-09	9.618e+01	1.449e-04
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	–	59335	M1	4.086e-06	1.599e+03	1.703e+00
$2p^3 \ ^2D_{5/2}^o$	$2p^3 \ ^2D_{3/2}^o$	–	59335	E2	1.890e-11	7.398e-03	5.389e-04
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	–	225957	M1	1.329e-06	2.262e+04	1.454e-01
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{3/2}^o$	–	225957	E2	2.951e-09	5.025e+01	1.523e-03
$2p^3 \ ^2P_{1/2}^o$	$2p^3 \ ^2D_{5/2}^o$	–	166622	E2	1.141e-09	1.057e+01	1.470e-03
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	–	305005	M1	6.361e-06	9.868e+04	5.158e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2D_{5/2}^o$	–	305005	E2	1.701e-08	2.638e+02	3.570e-03
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	–	138382	M1	5.320e-06	1.699e+04	9.507e-01
$2p^3 \ ^2P_{3/2}^o$	$2p^3 \ ^2P_{1/2}^o$	–	138382	E2	2.187e-10	6.985e-01	4.916e-04

Table 4

Comparison of E1 transitions rates for O IV. See page 9 for Explanation of Tables.

Upper	Lower	This work		MR RCI	MCHF	CIV3	NIST
		A_B (s ⁻¹)	A_C (s ⁻¹)	A (s ⁻¹)	A (s ⁻¹)	A (s ⁻¹)	A (s ⁻¹)
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	1.464e+03	2.127e+03		1.493e+03	1.474e+03	
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	4.072e+01	3.963e+01		3.908e+01	3.747e+01	
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	6.020e+08	6.045e+08	6.01e+08	6.026e+08	5.978e+08	5.95e+08
$2s2p^2\ ^2S_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	1.246e+09	1.237e+09	1.25e+09	1.256e+09	1.251e+09	1.21e+09
$2s2p^2\ ^2P_{1/2}$	$2s^22p\ ^2P_{1/2}^o$	4.764e+09	4.756e+09	4.77e+09	4.768e+09	4.750e+09	4.86e+09
$2s2p^2\ ^2P_{3/2}$	$2s^22p\ ^2P_{1/2}^o$	1.206e+09	1.203e+09	1.21e+09	1.207e+09	1.202e+09	1.22e+09
$2s2p^2\ ^4P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	1.438e+03	2.029e+03		1.466e+03	1.448e+03	
$2s2p^2\ ^4P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	2.847e+02	5.546e+02		2.944e+02	2.895e+02	
$2s2p^2\ ^4P_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	1.195e+03	1.748e+03		1.194e+03	1.163e+03	
$2s2p^2\ ^2D_{5/2}$	$2s^22p\ ^2P_{3/2}^o$	7.106e+08	7.144e+08	7.09e+08	7.114e+08	7.056e+08	7.08e+08
$2s2p^2\ ^2D_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	1.156e+08	1.159e+08	1.15e+08	1.156e+08	1.148e+08	1.18e+08
$2s2p^2\ ^2S_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	2.310e+09	2.291e+09	2.32e+09	2.329e+09	2.324e+09	2.40e+09
$2s2p^2\ ^2P_{1/2}$	$2s^22p\ ^2P_{3/2}^o$	2.474e+09	2.470e+09	2.47e+09	2.477e+09	2.464e+09	2.41e+09
$2s2p^2\ ^2P_{3/2}$	$2s^22p\ ^2P_{3/2}^o$	6.040e+09	6.029e+09	6.04e+09	6.043e+09	6.019e+09	6.06e+09
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^4P_{1/2}$	1.059e+09	1.058e+09	1.06e+09	1.060e+09	1.059e+09	1.07e+09
$2p^3\ ^2D_{3/2}$	$2s2p^2\ ^4P_{1/2}$	7.256e+02	5.412e+02		5.332e+02	5.112e+02	
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^4P_{1/2}$	1.605e+04	1.427e+04		1.546e+04	1.170e+04	
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^4P_{1/2}$	7.220e+02	9.440e+02		1.186e+03	1.806e+03	
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	2.112e+09	2.110e+09	2.11e+09	2.115e+09	2.113e+09	2.13e+09
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^4P_{3/2}$	1.471e+03	1.026e+03		1.110e+03	1.080e+03	
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	1.677e+04	1.477e+04		1.457e+04	1.425e+04	
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^4P_{3/2}$	2.985e+03	2.897e+03		3.716e+03	2.874e+03	
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^4P_{3/2}$	4.353e+04	4.148e+04		4.553e+04	4.113e+04	
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	3.155e+09	3.153e+09	3.15e+09	3.161e+09	3.158e+09	3.19e+09
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^4P_{5/2}$	5.560e+04	4.929e+04		4.887e+04	4.771e+04	
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	3.098e+03	2.513e+03		2.676e+03	2.583e+03	
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^4P_{5/2}$	1.601e+04	1.448e+04		1.421e+04	1.473e+04	
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	3.311e+02	2.972e+02		2.544e+02	3.620e+02	
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2D_{5/2}$	1.355e+09	1.354e+09	1.35e+09	1.353e+09	1.354e+09	1.36e+09
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	1.522e+08	1.523e+08	1.52e+08	1.521e+08	1.521e+08	1.46e+08
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2D_{5/2}$	2.544e+09	2.524e+09	2.55e+09	2.561e+09	2.557e+09	2.60e+09
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2D_{3/2}$	7.391e-02	4.539e-01		3.476e-04		
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2D_{3/2}$	9.919e+07	9.896e+07	9.87e+07	9.898e+07	9.902e+07	9.70e+07
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2D_{3/2}$	1.296e+09	1.295e+09	1.29e+09	1.294e+09	1.295e+09	1.31e+09
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2D_{3/2}$	2.855e+09	2.832e+09	2.87e+09	2.875e+09	2.870e+09	2.89e+09
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2D_{3/2}$	2.920e+08	2.896e+08	2.93e+08	2.940e+08	2.934e+08	2.89e+08
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	3.104e+01	3.468e+01		2.855e+01	3.185e+01	
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2S_{1/2}$	3.904e+08	3.938e+08	3.85e+08	3.861e+08	3.862e+08	4.05e+08
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2S_{1/2}$	4.201e+08	4.227e+08	4.13e+08	4.156e+08	4.151e+08	4.05e+08
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	3.872e+02	4.875e+02		3.192e+02	3.894e+02	
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	2.182e+08	2.194e+08	2.17e+08	2.193e+08	2.194e+08	2.17e+08
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{1/2}$	8.896e+08	8.865e+08	8.87e+08	8.953e+08	8.931e+08	8.83e+08
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{1/2}$	2.066e+08	2.059e+08	2.06e+08	2.080e+08	2.078e+08	2.21e+08
$2p^3\ ^4S_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	1.439e+03	1.889e+03		1.193e+03	1.455e+03	
$2p^3\ ^2D_{5/2}^o$	$2s2p^2\ ^2P_{3/2}$	2.561e+08	2.577e+08	2.55e+08	2.574e+08	2.575e+08	2.57e+08
$2p^3\ ^2D_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	4.145e+07	4.165e+07	4.12e+07	4.165e+07	4.166e+07	4.29e+07
$2p^3\ ^2P_{1/2}^o$	$2s2p^2\ ^2P_{3/2}$	4.316e+08	4.298e+08	4.31e+08	4.343e+08	4.334e+08	4.39e+08
$2p^3\ ^2P_{3/2}^o$	$2s2p^2\ ^2P_{3/2}$	1.097e+09	1.093e+09	1.09e+09	1.104e+09	1.102e+09	1.10e+09

Table 5

Comparison of M1 and E2 transitions rates for Ne VI - Zn XXVI. See page 9 for Explanation of Tables.

Upper	Lower	Type	This work A (s ⁻¹)	MR RCI A (s ⁻¹)	MCDHF A (s ⁻¹)	NIST A (s ⁻¹)
Ne VI						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	2.028e-02	2.05e-02	2.089e-02	2.02e-02
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	2.216e-08 ^B 2.706e-08 ^C	2.45e-08	2.321e-08	
Na VII						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	8.825e-02	8.81e-02	8.812e-02	8.77e-02
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	1.551e-07 ^B 1.474e-07 ^C	1.55e-07	1.544e-07	
Mg VIII						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	3.258e-01	3.21e-01	3.260e-01	3.23e-01
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	8.752e-07 ^B 8.412e-07 ^C	8.53e-07	8.801e-07	8.64e-07
Al IX						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	1.056e+00	1.05e+00	1.057e+00	1.05e+00
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	4.166e-06 ^B 4.025e-06 ^C	4.13e-06	4.188e-06	4.12e-06
Si X						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	3.082e+00	3.06e+00	3.083e+00	2.69e+00
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	1.725e-05 ^B 1.672e-05 ^C	1.72e-05	1.734e-05	1.49e-05
P XI						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	8.232e+00	8.16e+00	8.237e+00	8.19e+00
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	6.362e-05 ^B 6.181e-05 ^C	6.27e-05	6.394e-05	
S XII						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	2.041e+01	2.03e+01	2.043e+01	2.10e+01
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	2.127e-04 ^B 2.070e-04 ^C	2.10e-04	2.137e-04	
Cl XIII						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	4.749e+01	4.72e+01	4.753e+01	
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	6.534e-04 ^B 6.371e-04 ^C	6.48e-04	6.568e-04	
Ar XIV						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	1.045e+02	1.04e+02	1.046e+02	1.04e+02
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	1.867e-03 ^B 1.822e-03 ^C	1.85e-03	1.876e-03	
K XV						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	2.193e+02	2.18e+02	2.196e+02	2.24e+02
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	5.001e-03 ^B 4.888e-03 ^C	4.95e-03	5.029e-03	
Ca XVI						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	4.408e+02	4.39e+02	4.414e+02	
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	1.267e-02 ^B 1.239e-02 ^C	1.26e-02	1.274e-02	
Sc XVII						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	8.531e+02	8.49e+02	8.543e+02	8.53e+02
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	3.051e-02 ^B 2.988e-02 ^C	3.03e-02	3.068e-02	3.1e-02
Ti XVIII						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	1.596e+03	1.59e+03	1.598e+03	1.6e+03
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	7.026e-02 ^B 6.886e-02 ^C	6.97e-02	7.065e-02	7.1e-02

Continued. . .

Table 5 (continued)

Upper	Lower	Type	This work A (s ⁻¹)	MR RCI A (s ⁻¹)	MCDHF A (s ⁻¹)	NIST A (s ⁻¹)
V XIX						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	2.896e+03	2.88e+03	2.901e+03	2.9e+03
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	1.554e-01 ^B 1.524e-01 ^C	1.54e-01	1.563e-01	1.58e-01
Cr XX						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	5.113e+03	5.10e+03	5.121e+03	5.11e+03
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	3.314e-01 ^B 3.252e-01 ^C	3.29e-01	3.332e-01	3.36e-01
Mn XXI						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	8.802e+03	8.76e+03	8.817e+03	8.8e+03
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	6.835e-01 ^B 6.713e-01 ^C	6.79e-01	6.873e-01	6.9e-01
Fe XXII						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	1.481e+04	1.48e+04	1.484e+04	1.48e+04
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	1.368e+00 ^B 1.344e+00 ^C	1.36e+00	1.375e+00	1.39e+00
Co XXIII						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	2.440e+04	2.43e+04	2.445e+04	2.42e+04
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	2.661e+00 ^B 2.617e+00 ^C	2.64e+00	2.676e+00	2.67e+00
Ni XXIV						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	3.944e+04	3.93e+04	3.951e+04	3.95e+04
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	5.048e+00 ^B 4.965e+00 ^C	5.01e+00	5.076e+00	5.1e+00
Cu XXV						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	6.261e+04	6.24e+04	6.273e+04	6.26e+04
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	9.351e+00 ^B 9.200e+00 ^C	9.29e+00	9.402e+00	
Zn XXVI						
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	M1	9.777e+04	9.74e+04	9.796e+04	
$2s^2 2p \ ^2P_{3/2}^o$	$2s^2 2p \ ^2P_{1/2}^o$	E2	1.695e+01 ^B 1.668e+01 ^C	1.68e+01	1.704e+01	

Table 6
Lifetimes in s. See page 9 for Explanation of Tables.

State	τ (s)		Experiment
	This work	MCHF/MCDHF	
N III			
$2s^2 2p^2 \ ^2P_{3/2}^o$	2.023e+04	2.0747e+04	
$2s2p^2 \ ^4P_{1/2}$	1.418e-03	1.3736e-03	
$2s2p^2 \ ^4P_{3/2}$	1.424e-02	1.3691e-02	
$2s2p^2 \ ^4P_{5/2}$	3.554e-03	3.5592e-03	
$2s2p^2 \ ^2D_{5/2}$	1.996e-09	1.9959e-09	(2.09±0.08)e-09 [26]
$2s2p^2 \ ^2D_{3/2}$	1.985e-09	1.9847e-09	(2.09±0.08)e-09 [26]
$2s2p^2 \ ^2S_{1/2}$	3.642e-10	3.5839e-10	(3.2±0.6)e-10 [26]
$2s2p^2 \ ^2P_{1/2}$	1.764e-10	1.7622e-10	(1.9±0.5)e-10 [26]
$2s2p^2 \ ^2P_{3/2}$	1.763e-10	1.7616e-10	(2.0±0.6)e-10 [26]
$2p^3 \ ^4S_{3/2}^o$	2.058e-10	2.2072e-10	(2.6±0.5)e-10 [26]
$2p^3 \ ^2D_{5/2}^o$	8.786e-10	8.8405e-10	
$2p^3 \ ^2D_{3/2}^o$	8.795e-10	8.8482e-10	
$2p^3 \ ^2P_{1/2}^o$	2.987e-10	2.9310e-10	
$2p^3 \ ^2P_{3/2}^o$	2.991e-10	2.9346e-10	
O IV			
$2s^2 2p^2 \ ^2P_{3/2}^o$	1.883e+03	1.9156e+03	
$2s2p^2 \ ^4P_{1/2}$	3.446e-04	3.3798e-04	
$2s2p^2 \ ^4P_{3/2}$	3.073e-03	2.9985e-03	
$2s2p^2 \ ^4P_{5/2}$	8.371e-04	8.3765e-04	
$2s2p^2 \ ^2D_{5/2}$	1.407e-09	1.4058e-09	
$2s2p^2 \ ^2D_{3/2}$	1.393e-09	1.3925e-09	
$2s2p^2 \ ^2S_{1/2}$	2.812e-10	2.7901e-10	
$2s2p^2 \ ^2P_{1/2}$	1.382e-10	1.3803e-10	
$2s2p^2 \ ^2P_{3/2}$	1.380e-10	1.3794e-10	
$2p^3 \ ^4S_{3/2}^o$	1.581e-10	1.6715e-10	
$2p^3 \ ^2D_{5/2}^o$	5.848e-10	5.8496e-10	
$2p^3 \ ^2D_{3/2}^o$	5.855e-10	5.8568e-10	
$2p^3 \ ^2P_{1/2}^o$	2.190e-10	2.1785e-10	
$2p^3 \ ^2P_{3/2}^o$	2.193e-10	2.1820e-10	
F V			
$2s^2 2p^2 \ ^2P_{3/2}^o$	2.640e+02	2.6632e+02	
$2s2p^2 \ ^4P_{1/2}$	1.063e-04	1.0447e-04	
$2s2p^2 \ ^4P_{3/2}$	8.843e-04	8.6566e-04	
$2s2p^2 \ ^4P_{5/2}$	2.534e-04	2.5269e-04	
$2s2p^2 \ ^2D_{5/2}$	1.084e-09	1.0824e-09	
$2s2p^2 \ ^2D_{3/2}$	1.067e-09	1.0664e-09	
$2s2p^2 \ ^2S_{1/2}$	2.273e-10	2.2555e-10	
$2s2p^2 \ ^2P_{1/2}$	1.136e-10	1.1344e-10	
$2s2p^2 \ ^2P_{3/2}$	1.134e-10	1.1329e-10	
$2p^3 \ ^4S_{3/2}^o$	1.281e-10	1.2799e-10	
$2p^3 \ ^2D_{5/2}^o$	4.357e-10	4.3523e-10	
$2p^3 \ ^2D_{3/2}^o$	4.365e-10	4.3601e-10	
$2p^3 \ ^2P_{1/2}^o$	1.704e-10	1.6969e-10	
$2p^3 \ ^2P_{3/2}^o$	1.708e-10	1.7009e-10	
Ne VI			
$2s^2 2p^2 \ ^2P_{3/2}^o$	4.930e+01	4.7879e+01	
$2s2p^2 \ ^4P_{1/2}$	3.837e-05	3.9775e-05	
$2s2p^2 \ ^4P_{3/2}$	3.071e-04	3.1223e-04	
$2s2p^2 \ ^4P_{5/2}$	9.062e-05	9.3122e-05	
$2s2p^2 \ ^2D_{5/2}$	8.792e-10	8.7672e-10	
$2s2p^2 \ ^2D_{3/2}$	8.593e-10	8.5705e-10	
$2s2p^2 \ ^2S_{1/2}$	1.897e-10	1.8852e-10	
$2s2p^2 \ ^2P_{1/2}$	9.631e-11	9.6195e-11	
$2s2p^2 \ ^2P_{3/2}$	9.601e-11	9.5899e-11	
$2p^3 \ ^4S_{3/2}^o$	1.076e-10	1.0738e-10	
$2p^3 \ ^2D_{5/2}^o$	3.455e-10	3.4297e-10	
$2p^3 \ ^2D_{3/2}^o$	3.463e-10	3.4378e-10	
$2p^3 \ ^2P_{1/2}^o$	1.386e-10	1.3713e-10	
$2p^3 \ ^2P_{3/2}^o$	1.390e-10	1.3756e-10	

Continued. . .

Table 6 (continued)

State	τ (s)		Experiment
	This work	MCHF/MCDHF	
Na VII			
$2s^2 2p^2 \ ^2P_{3/2}^o$	1.133e+02	1.1348e+01	
$2s2p^2 \ ^4P_{1/2}$	1.595e-05	1.6361e-05	
$2s2p^2 \ ^4P_{3/2}$	1.232e-04	1.2466e-04	
$2s2p^2 \ ^4P_{5/2}$	3.694e-05	3.7719e-05	
$2s2p^2 \ ^2D_{5/2}$	7.379e-10	7.3716e-10	(7.0±0.7)e-10 [27]
$2s2p^2 \ ^2D_{3/2}$	7.144e-10	7.1389e-10	(6.9±0.5)e-10 [27]
$2s2p^2 \ ^2S_{1/2}$	1.620e-10	1.6129e-10	(1.55±0.1)e-10 [27]
$2s2p^2 \ ^2P_{1/2}$	8.350e-11	8.3507e-11	(7.3±1.0)e-11 [27]
$2s2p^2 \ ^2P_{3/2}$	8.306e-11	8.3068e-11	
$2p^3 \ ^4S_{3/2}^o$	9.248e-11	9.2270e-11	(9.5±1.0)e-11 [27]
$2p^3 \ ^2D_{5/2}^o$	2.847e-10	2.8279e-10	(2.8±0.4)e-11 [27]
$2p^3 \ ^2D_{3/2}^o$	2.857e-10	2.8371e-10	
$2p^3 \ ^2P_{1/2}^o$	1.162e-10	1.1505e-10	
$2p^3 \ ^2P_{3/2}^o$	1.167e-10	1.1554e-10	
Mg VIII			
$2s^2 2p^2 \ ^2P_{3/2}^o$	3.070e+00	3.0675e+00	
$2s2p^2 \ ^4P_{1/2}$	7.255e-06	7.4672e-06	
$2s2p^2 \ ^4P_{3/2}$	5.493e-05	5.6443e-05	
$2s2p^2 \ ^4P_{5/2}$	1.651e-05	1.6956e-05	
$2s2p^2 \ ^2D_{5/2}$	6.340e-10	6.3296e-10	
$2s2p^2 \ ^2D_{3/2}$	6.066e-10	6.0563e-10	
$2s2p^2 \ ^2S_{1/2}$	1.406e-10	1.4055e-10	
$2s2p^2 \ ^2P_{1/2}$	7.361e-11	7.3585e-11	
$2s2p^2 \ ^2P_{3/2}$	7.298e-11	7.2949e-11	
$2p^3 \ ^4S_{3/2}^o$	8.088e-11	8.0615e-11	
$2p^3 \ ^2D_{5/2}^o$	2.409e-10	2.3913e-10	
$2p^3 \ ^2D_{3/2}^o$	2.420e-10	2.4050e-10	
$2p^3 \ ^2P_{1/2}^o$	9.960e-11	9.9143e-11	
$2p^3 \ ^2P_{3/2}^o$	1.002e-10	9.9712e-11	
Al IX			
$2s^2 2p^2 \ ^2P_{3/2}^o$	9.466e-01	9.4604e-01	
$2s2p^2 \ ^4P_{1/2}$	3.568e-06	3.6511e-06	
$2s2p^2 \ ^4P_{3/2}$	2.668e-05	2.7211e-05	
$2s2p^2 \ ^4P_{5/2}$	7.952e-06	8.1247e-06	
$2s2p^2 \ ^2D_{5/2}$	5.542e-10	5.5359e-10	
$2s2p^2 \ ^2D_{3/2}$	5.227e-10	5.2206e-10	
$2s2p^2 \ ^2S_{1/2}$	1.233e-10	1.2322e-10	
$2s2p^2 \ ^2P_{1/2}$	6.577e-11	6.5749e-11	
$2s2p^2 \ ^2P_{3/2}$	6.487e-11	6.4834e-11	
$2p^3 \ ^4S_{3/2}^o$	7.164e-11	7.1419e-11	
$2p^3 \ ^2D_{5/2}^o$	2.076e-10	2.0631e-10	
$2p^3 \ ^2D_{3/2}^o$	2.088e-10	2.0765e-10	
$2p^3 \ ^2P_{1/2}^o$	8.673e-11	8.6374e-11	
$2p^3 \ ^2P_{3/2}^o$	8.737e-11	8.7009e-11	
Si X			
$2s^2 2p^2 \ ^2P_{3/2}^o$	3.245e-01	3.2431e-01	
$2s2p^2 \ ^4P_{1/2}$	1.870e-06	1.9055e-06	
$2s2p^2 \ ^4P_{3/2}$	1.389e-05	1.4098e-05	
$2s2p^2 \ ^4P_{5/2}$	4.066e-06	4.1390e-06	
$2s2p^2 \ ^2D_{3/2}$	4.550e-10	4.5452e-10	(4.9±0.3)e-10 [28]
$2s2p^2 \ ^2D_{5/2}$	4.909e-10	4.9046e-10	(4.9±0.3)e-10 [28]
$2s2p^2 \ ^2S_{1/2}$	1.087e-10	1.0864e-10	(1.0±0.08)e-10 [28]
$2s2p^2 \ ^2P_{1/2}$	5.947e-11	5.9444e-11	(5.8±0.5)e-11 [28]
$2s2p^2 \ ^2P_{3/2}$	5.816e-11	5.8128e-11	(5.8±0.5)e-11 [28]
$2p^3 \ ^4S_{3/2}^o$	6.407e-11	6.3882e-11	(5.9±0.5)e-11 [28]
$2p^3 \ ^2D_{3/2}^o$	1.825e-10	1.8168e-10	(1.75±0.1)e-10 [28]
$2p^3 \ ^2D_{5/2}^o$	1.813e-10	1.8034e-10	(1.75±0.1)e-10 [28]
$2p^3 \ ^2P_{1/2}^o$	7.645e-11	7.6155e-11	(7.8±0.5)e-11 [28]
$2p^3 \ ^2P_{3/2}^o$	7.715e-11	7.6859e-11	(7.8±0.5)e-11 [28]

Continued...

Table 6 (continued)

State	τ (s)		Experiment
	This work	MCHF/MCDHF	
P XI			
$2s^2 2p^2 \ ^2P_{3/2}^o$	1.215e-01	1.2140e-01	
$2s2p^2 \ ^4P_{1/2}$	1.032e-06	1.0491e-06	
$2s2p^2 \ ^4P_{3/2}$	7.656e-06	7.7471e-06	
$2s2p^2 \ ^4P_{5/2}$	2.182e-06	2.2155e-06	
$2s2p^2 \ ^2D_{3/2}$	3.987e-10	3.9838e-10	(4.25±0.3)e-10 [29]
$2s2p^2 \ ^2D_{5/2}$	4.392e-10	4.3889e-10	
$2s2p^2 \ ^2S_{1/2}$	9.598e-11	9.5891e-11	
$2s2p^2 \ ^2P_{1/2}$	5.436e-11	5.4346e-11	(5.5±0.6)e-11 [29]
$2s2p^2 \ ^2P_{3/2}$	5.250e-11	5.2468e-11	
$2p^3 \ ^4S_{3/2}^o$	5.773e-11	5.7566e-11	
$2p^3 \ ^2D_{3/2}^o$	1.612e-10	1.6049e-10	
$2p^3 \ ^2D_{5/2}^o$	1.600e-10	1.5917e-10	
$2p^3 \ ^2P_{1/2}^o$	6.800e-11	6.7758e-11	(7.3±0.4)e-11 [29]
$2p^3 \ ^2P_{3/2}^o$	6.877e-11	6.8530e-11	
S XII			
$2s^2 2p^2 \ ^2P_{3/2}^o$	4.899e-02	4.8955e-02	
$2s2p^2 \ ^4P_{1/2}$	5.960e-07	6.0422e-07	
$2s2p^2 \ ^4P_{3/2}$	4.430e-06	4.4726e-06	
$2s2p^2 \ ^4P_{5/2}$	1.219e-06	1.2353e-06	
$2s2p^2 \ ^2D_{3/2}$	3.509e-10	3.5070e-10	(3.8±0.5)e-10 [30]
$2s2p^2 \ ^2D_{5/2}$	3.961e-10	3.9586e-10	4.1e-10 [31]
$2s2p^2 \ ^2S_{1/2}$	8.454e-11	8.4445e-11	
$2s2p^2 \ ^2P_{1/2}$	5.025e-11	5.0236e-11	8.1e-11 [31]
$2s2p^2 \ ^2P_{3/2}$	4.764e-11	4.7604e-11	8.1e-11 [31]
$2p^3 \ ^4S_{3/2}^o$	5.231e-11	5.2176e-11	(5.0±1.0)e-11 [30]
$2p^3 \ ^2D_{3/2}^o$	1.433e-10	1.4277e-10	(1.3±0.1)e-10 [30]
$2p^3 \ ^2D_{5/2}^o$	1.421e-10	1.4149e-10	1.9e-10 [31]
$2p^3 \ ^2P_{1/2}^o$	6.091e-11	6.0714e-11	
$2p^3 \ ^2P_{3/2}^o$	6.175e-11	6.1552e-11	
Cl XIII			
$2s^2 2p^2 \ ^2P_{3/2}^o$	2.106e-02	2.1040e-02	
$2s2p^2 \ ^4P_{1/2}$	3.572e-07	3.6154e-07	
$2s2p^2 \ ^4P_{3/2}$	2.673e-06	2.6939e-06	
$2s2p^2 \ ^4P_{5/2}$	7.046e-07	7.1275e-07	
$2s2p^2 \ ^2D_{3/2}$	3.095e-10	3.0944e-10	(3.3±0.3)e-10 [32]
$2s2p^2 \ ^2D_{5/2}$	3.594e-10	3.5927e-10	
$2s2p^2 \ ^2S_{1/2}$	7.418e-11	7.4080e-11	(8.0±0.8)e-11 [32]
$2s2p^2 \ ^2P_{1/2}$	4.695e-11	4.6936e-11	(5.8±0.6)e-11 [32]
$2s2p^2 \ ^2P_{3/2}$	4.340e-11	4.3365e-11	
$2p^3 \ ^4S_{3/2}^o$	4.762e-11	4.7504e-11	(5.3±0.5)e-11 [32]
$2p^3 \ ^2D_{3/2}^o$	1.281e-10	1.2764e-10	
$2p^3 \ ^2D_{5/2}^o$	1.270e-10	1.2644e-10	(1.2±0.1)e-10 [32]
$2p^3 \ ^2P_{1/2}^o$	5.485e-11	5.4691e-11	
$2p^3 \ ^2P_{3/2}^o$	5.575e-11	5.5589e-11	(5.5±0.6)e-11 [32]
Ar XIV			
$2s^2 2p^2 \ ^2P_{3/2}^o$	9.565e-03	9.5565e-03	
$2s2p^2 \ ^4P_{1/2}$	2.213e-07	2.2351e-07	
$2s2p^2 \ ^4P_{3/2}$	1.673e-06	1.6837e-06	
$2s2p^2 \ ^4P_{5/2}$	4.194e-07	4.2338e-07	
$2s2p^2 \ ^2D_{3/2}$	2.733e-10	2.7305e-10	
$2s2p^2 \ ^2D_{5/2}$	3.279e-10	3.2755e-10	
$2s2p^2 \ ^2S_{1/2}$	6.493e-11	6.4832e-11	
$2s2p^2 \ ^2P_{1/2}$	4.429e-11	4.4257e-11	
$2s2p^2 \ ^2P_{3/2}$	3.966e-11	3.9624e-11	
$2p^3 \ ^4S_{3/2}^o$	4.350e-11	4.3394e-11	
$2p^3 \ ^2D_{3/2}^o$	1.148e-10	1.1447e-10	
$2p^3 \ ^2D_{5/2}^o$	1.138e-10	1.1338e-10	
$2p^3 \ ^2P_{1/2}^o$	4.959e-11	4.9441e-11	
$2p^3 \ ^2P_{3/2}^o$	5.053e-11	5.0386e-11	

Continued...

Table 6 (continued)

State	τ (s)		Experiment
	This work	MCHF/MCDHF	
K XV			
$2s^2 2p^2 \ ^2P_{3/2}^o$	4.560e-03	4.5543e-03	
$2s2p^2 \ ^4P_{1/2}$	1.409e-07	1.4211e-07	
$2s2p^2 \ ^4P_{3/2}$	1.080e-06	1.0904e-06	
$2s2p^2 \ ^4P_{5/2}$	2.557e-07	2.5815e-07	
$2s2p^2 \ ^2D_{3/2}$	2.411e-10	2.4087e-10	
$2s2p^2 \ ^2D_{5/2}$	3.001e-10	2.9981e-10	
$2s2p^2 \ ^2S_{1/2}$	5.685e-11	5.6714e-11	
$2s2p^2 \ ^2P_{1/2}$	4.203e-11	4.2008e-11	
$2s2p^2 \ ^2P_{3/2}$	3.632e-11	3.6284e-11	
$2p^3 \ ^4S_{3/2}^o$	3.985e-11	3.9749e-11	
$2p^3 \ ^2D_{3/2}^o$	1.032e-10	1.0282e-10	
$2p^3 \ ^2D_{5/2}^o$	1.023e-10	1.0190e-10	
$2p^3 \ ^2P_{1/2}^o$	4.496e-11	4.4818e-11	
$2p^3 \ ^2P_{3/2}^o$	4.594e-11	4.5789e-11	
Ca XVI			
$2s^2 2p^2 \ ^2P_{3/2}^o$	2.269e-03	2.2655e-03	
$2s2p^2 \ ^4P_{1/2}$	9.189e-08	9.2594e-08	
$2s2p^2 \ ^4P_{3/2}$	7.168e-07	7.2305e-07	
$2s2p^2 \ ^4P_{5/2}$	1.594e-07	1.6074e-07	
$2s2p^2 \ ^2D_{3/2}$	2.124e-10	2.1216e-10	
$2s2p^2 \ ^2D_{5/2}$	2.756e-10	2.7527e-10	
$2s2p^2 \ ^2S_{1/2}$	4.999e-11	4.9881e-11	
$2s2p^2 \ ^2P_{1/2}$	4.000e-11	3.9976e-11	
$2s2p^2 \ ^2P_{3/2}$	3.332e-11	3.3283e-11	
$2p^3 \ ^4S_{3/2}^o$	3.660e-11	3.6504e-11	
$2p^3 \ ^2D_{3/2}^o$	9.275e-11	9.2446e-11	
$2p^3 \ ^2D_{5/2}^o$	9.209e-11	9.1749e-11	
$2p^3 \ ^2P_{1/2}^o$	4.085e-11	4.0722e-11	
$2p^3 \ ^2P_{3/2}^o$	4.185e-11	4.1709e-11	
Sc XVII			
$2s^2 2p^2 \ ^2P_{3/2}^o$	1.172e-03	1.1705e-03	
$2s2p^2 \ ^4P_{1/2}$	6.124e-08	6.1654e-08	
$2s2p^2 \ ^4P_{3/2}$	4.880e-07	4.9168e-07	
$2s2p^2 \ ^4P_{5/2}$	1.013e-07	1.0212e-07	
$2s2p^2 \ ^2D_{3/2}$	1.866e-10	1.8642e-10	
$2s2p^2 \ ^2D_{5/2}$	2.536e-10	2.5332e-10	
$2s2p^2 \ ^2S_{1/2}$	4.426e-11	4.4169e-11	
$2s2p^2 \ ^2P_{1/2}$	3.805e-11	3.8024e-11	
$2s2p^2 \ ^2P_{3/2}$	3.060e-11	3.0566e-11	
$2p^3 \ ^4S_{3/2}^o$	3.368e-11	3.3591e-11	
$2p^3 \ ^2D_{3/2}^o$	8.336e-11	8.3091e-11	
$2p^3 \ ^2D_{5/2}^o$	8.296e-11	8.2661e-11	
$2p^3 \ ^2P_{1/2}^o$	3.716e-11	3.7048e-11	
$2p^3 \ ^2P_{3/2}^o$	3.815e-11	3.8027e-11	
Ti XVIII			
$2s^2 2p^2 \ ^2P_{3/2}^o$	6.265e-04	6.2560e-04	
$2s2p^2 \ ^4P_{1/2}$	4.160e-08	4.1850e-08	
$2s2p^2 \ ^4P_{3/2}$	3.397e-07	3.4197e-07	
$2s2p^2 \ ^4P_{5/2}$	6.564e-08	6.6083e-08	
$2s2p^2 \ ^2D_{3/2}$	1.635e-10	1.6333e-10	
$2s2p^2 \ ^2D_{5/2}$	2.338e-10	2.3351e-10	
$2s2p^2 \ ^2S_{1/2}$	3.947e-11	3.9393e-11	
$2s2p^2 \ ^2P_{1/2}$	3.611e-11	3.6073e-11	
$2s2p^2 \ ^2P_{3/2}$	2.812e-11	2.8090e-11	
$2p^3 \ ^4S_{3/2}^o$	3.105e-11	3.0969e-11	
$2p^3 \ ^2D_{3/2}^o$	7.481e-11	7.4579e-11	
$2p^3 \ ^2D_{5/2}^o$	7.474e-11	7.4470e-11	
$2p^3 \ ^2P_{1/2}^o$	3.383e-11	3.3727e-11	
$2p^3 \ ^2P_{3/2}^o$	3.478e-11	3.4669e-11	

Continued...

Table 6 (continued)

State	τ (s)		Experiment
	This work	MCHF/MCDHF	
V XIX			
$2s^2 2p^2 \ ^2P_{3/2}^o$	3.452e-04	3.4472e-04	
$2s2p^2 \ ^4P_{1/2}$	2.875e-08	2.8901e-08	
$2s2p^2 \ ^4P_{3/2}$	2.413e-07	2.4274e-07	
$2s2p^2 \ ^4P_{5/2}$	4.327e-08	4.3527e-08	
$2s2p^2 \ ^2D_{3/2}$	1.428e-10	1.4264e-10	
$2s2p^2 \ ^2D_{5/2}$	2.158e-10	2.1551e-10	
$2s2p^2 \ ^2P_{1/2}$	3.543e-11		
$2s2p^2 \ ^2S_{1/2}$	3.413e-11		
$2s2p^2 \ ^2P_{3/2}$	2.586e-11	2.5822e-11	
$2p^3 \ ^4S_{3/2}^o$	2.869e-11	2.8607e-11	
$2p^3 \ ^2D_{3/2}^o$	6.698e-11	6.6774e-11	
$2p^3 \ ^2D_{5/2}^o$	6.729e-11	6.7051e-11	
$2p^3 \ ^2P_{1/2}^o$	3.080e-11	3.0706e-11	
$2p^3 \ ^2P_{3/2}^o$	3.168e-11	3.1582e-11	
Cr XX			
$2s^2 2p^2 \ ^2P_{3/2}^o$	1.956e-04	1.9526e-04	
$2s2p^2 \ ^4P_{1/2}$	2.018e-08	2.0274e-08	
$2s2p^2 \ ^4P_{3/2}$	1.746e-07	1.7549e-07	
$2s2p^2 \ ^4P_{5/2}$	2.901e-08	2.9170e-08	
$2s2p^2 \ ^2D_{3/2}$	1.243e-10	1.2417e-10	
$2s2p^2 \ ^2D_{5/2}$	1.993e-10	1.9906e-10	
$2s2p^2 \ ^2P_{1/2}$	3.196e-11	3.1902e-11	
$2s2p^2 \ ^2S_{1/2}$	3.214e-11	3.2103e-11	
$2s2p^2 \ ^2P_{3/2}$	2.377e-11	2.3736e-11	
$2p^3 \ ^4S_{3/2}^o$	2.656e-11	2.6482e-11	
$2p^3 \ ^2D_{3/2}^o$	5.975e-11	5.9567e-11	
$2p^3 \ ^2D_{5/2}^o$	6.052e-11	6.0304e-11	
$2p^3 \ ^2P_{1/2}^o$	2.803e-11	2.7947e-11	
$2p^3 \ ^2P_{3/2}^o$	2.882e-11	2.8726e-11	
Mn XXI			
$2s^2 2p^2 \ ^2P_{3/2}^o$	1.136e-04	1.1342e-04	
$2s2p^2 \ ^4P_{1/2}$	1.437e-08	1.4429e-08	
$2s2p^2 \ ^4P_{3/2}$	1.284e-07	1.2900e-07	
$2s2p^2 \ ^4P_{5/2}$	1.980e-08	1.9892e-08	
$2s2p^2 \ ^2D_{3/2}$	1.079e-10	1.0776e-10	
$2s2p^2 \ ^2D_{5/2}$	1.842e-10	1.8393e-10	
$2s2p^2 \ ^2P_{1/2}$	2.895e-11	2.8893e-11	
$2s2p^2 \ ^2S_{1/2}$	3.015e-11	3.0108e-11	
$2s2p^2 \ ^2P_{3/2}$	2.184e-11	2.1811e-11	
$2p^3 \ ^4S_{3/2}^o$	2.465e-11	2.4578e-11	
$2p^3 \ ^2D_{3/2}^o$	5.303e-11	5.2877e-11	
$2p^3 \ ^2D_{5/2}^o$	5.435e-11	5.4155e-11	
$2p^3 \ ^2P_{1/2}^o$	2.549e-11	2.5417e-11	
$2p^3 \ ^2P_{3/2}^o$	2.615e-11	2.6073e-11	
Fe XXII			
$2s^2 2p^2 \ ^2P_{3/2}^o$	6.752e-05	6.7400e-05	
$2s2p^2 \ ^4P_{1/2}$	1.037e-08	1.0409e-08	
$2s2p^2 \ ^4P_{3/2}$	9.589e-08	9.6258e-08	
$2s2p^2 \ ^4P_{5/2}$	1.375e-08	1.3809e-08	
$2s2p^2 \ ^2D_{3/2}$	9.339e-11	9.3251e-11	
$2s2p^2 \ ^2D_{5/2}$	1.702e-10	1.6995e-10	
$2s2p^2 \ ^2P_{1/2}$	2.628e-11	2.6238e-11	
$2s2p^2 \ ^2S_{1/2}$	2.817e-11	2.8132e-11	
$2s2p^2 \ ^2P_{3/2}$	2.006e-11	2.0029e-11	
$2p^3 \ ^4S_{3/2}^o$	2.295e-11	2.2880e-11	
$2p^3 \ ^2D_{3/2}^o$	4.679e-11	4.6655e-11	
$2p^3 \ ^2D_{5/2}^o$	4.872e-11	4.8544e-11	
$2p^3 \ ^2P_{1/2}^o$	2.316e-11	2.3091e-11	
$2p^3 \ ^2P_{3/2}^o$	2.368e-11	2.3604e-11	

Continued...

Table 6 (continued)

State	τ (s)		Experiment
	This work	MCHF/MCDHF	
Co XXII			
$2s^2 2p^2 \ ^2P_{3/2}^o$	4.098e-05	4.0904e-05	
$2s2p^2 \ ^4P_{1/2}$	7.586e-09	7.6075e-09	
$2s2p^2 \ ^4P_{3/2}$	7.257e-08	7.2813e-08	
$2s2p^2 \ ^4P_{5/2}$	9.732e-09	9.7657e-09	
$2s2p^2 \ ^2D_{3/2}$	8.063e-11	8.0504e-11	
$2s2p^2 \ ^2D_{5/2}$	1.572e-10	1.5699e-10	
$2s2p^2 \ ^2P_{1/2}$	2.391e-11	2.3867e-11	
$2s2p^2 \ ^2S_{1/2}$	2.623e-11	2.6193e-11	
$2s2p^2 \ ^2P_{3/2}$	1.840e-11	1.8375e-11	
$2p^3 \ ^4S_{3/2}^o$	2.144e-11	2.1375e-11	
$2p^3 \ ^2D_{3/2}^o$	4.100e-11	4.0888e-11	
$2p^3 \ ^2D_{5/2}^o$	4.358e-11	4.3423e-11	
$2p^3 \ ^2P_{1/2}^o$	2.101e-11	2.0950e-11	
$2p^3 \ ^2P_{3/2}^o$	2.138e-11	2.1308e-11	
Ni XXIV			
$2s^2 2p^2 \ ^2P_{3/2}^o$	2.535e-05	2.5308e-05	
$2s2p^2 \ ^4P_{1/2}$	5.618e-09	5.6308e-09	
$2s2p^2 \ ^4P_{3/2}$	5.560e-08	5.5758e-08	
$2s2p^2 \ ^4P_{5/2}$	7.022e-09	7.0417e-09	
$2s2p^2 \ ^2D_{3/2}$	6.948e-11	6.9368e-11	
$2s2p^2 \ ^2D_{5/2}$	1.452e-10	1.4493e-10	
$2s2p^2 \ ^2P_{1/2}$	2.177e-11	2.1729e-11	
$2s2p^2 \ ^2S_{1/2}$	2.435e-11	2.4308e-11	
$2s2p^2 \ ^2P_{3/2}$	1.686e-11	1.6836e-11	
$2p^3 \ ^4S_{3/2}^o$	2.011e-11	2.0044e-11	
$2p^3 \ ^2D_{3/2}^o$	3.569e-11	3.5595e-11	
$2p^3 \ ^2D_{5/2}^o$	3.889e-11	3.8752e-11	
$2p^3 \ ^2P_{1/2}^o$	1.903e-11	1.8978e-11	
$2p^3 \ ^2P_{3/2}^o$	1.924e-11	1.9176e-11	
Cu XXV			
$2s^2 2p^2 \ ^2P_{3/2}^o$	1.597e-05	1.5940e-05	
$2s2p^2 \ ^4P_{1/2}$	4.208e-09	4.2204e-09	
$2s2p^2 \ ^4P_{3/2}$	4.302e-08	4.3170e-08	
$2s2p^2 \ ^4P_{5/2}$	5.164e-09	5.1813e-09	
$2s2p^2 \ ^2D_{3/2}$	5.976e-11	5.9690e-11	
$2s2p^2 \ ^2D_{5/2}$	1.338e-10	1.3366e-10	
$2s2p^2 \ ^2P_{1/2}$	1.981e-11	1.9788e-11	
$2s2p^2 \ ^2S_{1/2}$	2.251e-11	2.2485e-11	
$2s2p^2 \ ^2P_{3/2}$	1.542e-11	1.5404e-11	
$2p^3 \ ^4S_{3/2}^o$	1.894e-11	1.8863e-11	
$2p^3 \ ^2D_{3/2}^o$	3.091e-11	3.0814e-11	
$2p^3 \ ^2D_{5/2}^o$	3.464e-11	3.4499e-11	
$2p^3 \ ^2P_{1/2}^o$	1.722e-11	1.7161e-11	
$2p^3 \ ^2P_{3/2}^o$	1.727e-11	1.7203e-11	
Zn XXVI			
$2s^2 2p^2 \ ^2P_{3/2}^o$	1.023e-05	1.0206e-05	
$2s2p^2 \ ^4P_{1/2}$	3.199e-09	3.2032e-09	
$2s2p^2 \ ^4P_{3/2}$	3.369e-08	3.3752e-08	
$2s2p^2 \ ^4P_{5/2}$	3.886e-09	3.8927e-09	
$2s2p^2 \ ^2D_{3/2}$	5.141e-11	5.1316e-11	
$2s2p^2 \ ^2D_{5/2}$	1.233e-10	1.2309e-10	
$2s2p^2 \ ^2P_{1/2}$	1.805e-11	1.8015e-11	
$2s2p^2 \ ^2S_{1/2}$	2.077e-11	2.0733e-11	
$2s2p^2 \ ^2P_{3/2}$	1.409e-11	1.4067e-11	
$2p^3 \ ^4S_{3/2}^o$	1.786e-11	1.7801e-11	
$2p^3 \ ^2D_{3/2}^o$	2.665e-11	2.6576e-11	
$2p^3 \ ^2D_{5/2}^o$	3.075e-11	3.0635e-11	
$2p^3 \ ^2P_{1/2}^o$	1.554e-11	1.5488e-11	
$2p^3 \ ^2P_{3/2}^o$	1.544e-11	1.5385e-11	