

# The First Spectrum of Manganese, Mn I

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In 1894, two short series of threefold spectral terms were discovered in the arc spectrum of manganese, and in 1922 other regularities involving fivefold and sixfold terms were discovered by Catalán who coined the word "multiplet" for the group of related lines resulting from combinations of such complex terms. Multiplet analyses of complex spectra promptly led to the present formal quantum interpretation of all such phenomena, but comparable progress in the analysis of the Mn I spectrum was handicapped by the paucity of experimental data.

New observations of about 2500 wavelengths and intensities plus 440 Zeeman patterns made available in 1948–49 have now been completely exploited to derive additional atomic energy levels and thereby explain more of the observed Mn I lines. The result is that a total of 42 even terms with 125 levels and 60 *g*-values have now been designated and allocated to electron configurations, and 94 odd terms with 266 levels, 164 *g*-values, plus 13 miscellaneous levels. These terms are distributed among four multiplicities (doublets, quartets, sextets, octets), and transitions between even and odd terms account for more than 2030 lines ranging in wavelength from 1785 Å to 17608 Å.

## I. Introduction

The spectra of manganese have interested and engaged scientists for nearly 120 years. In 1910 Kayser [1]<sup>4</sup> listed 67 publications on this subject since 1845, and in 1934 Kayser and Konen [2] compiled a bibliography of 154 additional items through 1931. In the present paper only a few of the above will be referred to for historical background, but most of the papers published since 1931 that describe or interpret the Mn I spectrum will be mentioned to extend the bibliography.

In 1894 Kayser and Runge [3] reported finding the first regularities among lines in the arc spectrum of manganese; they found five triplets with wave number differences of 173 and 129 K ( $K=k\text{ayser}=1 \text{ cm}^{-1}$ ) and arranged them in two spectral series, one "sharp" and one "diffuse," like those in the simpler spectra of alkaline-earth elements. (This precious information was presented in a footnote on page 104 of a paper primarily dedicated to the spectra of tin, lead, arsenic, antimony, and bismuth.)

Nearly three decades after Kayser and Runge [3] discovered the first rudimentary series in the arc spectrum of manganese, Catalán [4] extended those series and calculated the first ionization potential of manganese as 7.41 electron volts. Catalán said (p. 146) "Whilst the manganese series of ordinary type were under investigation, it was noted that there was a strong tendency for lines of similar character to appear in groups (of 9, 12, or 15 lines) and that such groups included some of the most intense lines in the spectrum". For such a group of related spectral lines, "multiplet" was suggested

(p. 147). "The accuracy of the separations, some of them being identical with those of the ordinary series, together with the fact that the lines of each group are of the same character, strongly suggests that the multiplets have a real physical significance. Further evidence for their reality is afforded by the occurrence of similar multiplets in the spectra of other elements" (p. 163). In fact, Catalán's first paper on regularities in the spectrum of manganese reporting triplets and multiplets that reveal terms with five or six levels [4] also reported three multiplets in the spectrum of ionized manganese and three multiplets of the neutral atom of chromium. Even before that paper was printed, a manuscript copy of it inspired Sommerfeld [5] to write on the explanation of complex spectra (manganese, chromium, etc.) according to the method of inner quantum numbers. Almost simultaneously, Back [6] accurately measured the Zeeman effect of 49 lines in the arc- and 12 lines in the spark spectrum of manganese with the object of investigating magnetic term splitting of the complex terms found by Catalán, and Landé [7] provided an explanation of all Zeeman patterns with the aid of magnetic quantum numbers and experimental magnetic splitting factors for different types of spectral terms and multiplicities.

It was then clear that the regularities among 169 lines of Mn I presented by Catalán [4] arose from spectral terms belonging to sextet and octet systems. As a check of Landé's scheme, and an example of the usefulness of Zeeman effect in analyzing complex spectra, Back [6] found from Zeeman data the first multiplet of the quartet system. Since multiplets usually occur in triplicate ( $\Delta l=0, \pm 1$ ), Catalán [8] promptly found two additional quartet multiplets associated with the one described by Back.

In 1926 McLennan and McLay [9] extended the work of Catalán and Back on Mn I by making absorption experiments, finding 14 additional multi-

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<sup>4</sup> Figures in brackets indicate the literature references at the end of this paper.

plets, providing energy diagrams for quartets, sextets, and octets, and tables of 90 energy levels and 257 classified lines ranging in wavelength from 1874.7 Å to 17607.5 Å. Although terms of doublet multiplicity were sought, none was found at that time. This list of levels and terms, with some additions from Russell [10] and from Catalán [11], and with modernized notation, appeared in a volume of Atomic Energy States published in 1932 by Bacher and Goudsmit [12]; it presented 99 energy levels distributed in 17 quartet, 16 sextet, and 15 octet, terms then recognized for the Mn I spectrum. The following year, T. Dunham, Jr., [13] found ten new quartet and two sextet terms (but never published them), and Meggers [14] detected one quartet and two sextet terms in new observations of near infrared spectra. Aside from the above, fifteen years passed without progress in the analysis of Mn I. A strong incentive to extend this analysis came in 1946 when C. E. Moore began her critical and comprehensive compilation of Atomic Energy Levels as Derived from the Analyses of Optical Spectra.

In 1949 a major advance in the analysis of Mn I was made by Miss Olga García-Riquelme [15] who was assigned the task as a thesis problem by Professor Catalán at the University of Madrid. By assembling all known energy levels of Mn I and by compiling wavelengths and intensities of manganese lines from many spectroscopic papers (by 15 different authors), García-Riquelme succeeded in finding 58 new energy levels and 15 new terms for Mn I, thus producing a total of 30 even terms (85 levels), 30 odd terms (124 levels), plus 21 miscellaneous odd levels beyond the ionization limit. The permitted transitions between these levels accounted for 711 observed lines ranging in wavelength from 1876.48 Å to 17607.5 Å. All the established spectral terms of Mn I were assigned to quartet, sextet, and octet systems; doublet terms were still unrecognized.

In order to complete the bibliography on description and interpretation of Mn I spectra during the period 1931 to 1949, we mention a paper by Slevogt [16] and one by Paul [17]. The former quotes earlier data on 233 lines (between 6024.67 and 8933.03 Å) and remeasured the wavelengths of 113 of these; the latter reported observations on 57 Mn I lines with wavelengths between 1923.05 Å and 1085.01 Å absorbed by manganese vapor. Paul explained 10 of these as transitions from the ground state to highly excited levels, but only three of these have been confirmed in this analysis of Mn I.

In 1948 Catalán decided that an improved description of the Mn I spectrum (including reliable wavelengths, realistic relative intensities for several thousand lines, and Zeeman data for hundreds of lines) was prerequisite to a more complete and satisfactory term analysis of this spectrum.

## 2. Experiments

To improve the data of Mn I Catalán spent most of 1948 in the United States, where he recorded the vacuum ultraviolet arc spectrum of manganese at

Princeton University, and photographed the arc spectrum throughout the visible and adjacent ultraviolet at the National Bureau of Standards.

The vacuum ultraviolet arc and spark spectra of manganese were photographed with a two-m radius grating at Princeton University through the courtesy of Allen G. Shenstone who previously described [18] the apparatus and procedure. The manganese spectra were recorded in this vacuum spectrograph from 1460 Å to 2180 Å with a scale of 4.8 Å per mm, and all these spectrograms were measured and converted to wavelengths by Catalán.

In 1933, Meggers photographed and measured an ultraviolet range (2100 Å to 2800 Å) of manganese spectra with the largest quartz Littrow spectrograph constructed by Adam Hilger, Ltd., of London. Provided with a quartz lens of three-m focal length and Cornu prisms of 60-cm total base, this spectrograph produced reciprocal dispersions of 0.4 to 1.0 Å/mm at the above-mentioned wavelengths. These results were presented to Catalán in 1948 in addition to several dozen new lines between 10500 Å and 12000 Å recorded by Meggers on Eastman 1-Z photographic plates to extend his earlier observations [14] made with Eastman 1-Q plates.

In 1948 Meggers and Catalán reobserved the arc and spark spectra of manganese between 2200 Å and 7800 Å with the aid of a concave grating supplied by R. W. Wood [19]. In a Wadsworth-type mounting, this grating of 30,000 lines per inch on aluminized pyrex glass with 22 feet radius of curvature provided ghost-free spectra with reciprocal dispersions of 1.7 to 2.4 Å per mm in the first order. The second order spectra with double dispersion were photographed between 2500 Å and 4500 Å. All these spectrograms were measured relative to international standards of wavelength provided by the iron arc, and improved wavelengths and estimated intensities of more than 2000 lines characteristic of Mn I were thus obtained in 1949. Excepting several hundred wavelengths since reported in papers on the Zeeman effect, none of these new data has been published heretofore. To complete this description of the Mn I spectra, we (like others) have quoted 16 infrared wavelengths (12900 Å to 17608 Å) emitted by arcs of 60 to 80 amperes and detected with a thermopile in 1919 by Randall and Barker [20].

This improved description of the Mn I spectrum promptly led to the detection of doublet terms and extension of other multiplicities, so that by 1952 as compared with 1949, the total number of even levels had increased to 118 from 87, the number of odd levels to 217 from 124, and the number of classified lines to 1500 from 711. This improvement in the term analysis of Mn I, including *g* (magnetic splitting) factors for 108 levels, was summarized in 1952 by Charlotte E. Moore [21].

Although Back [6] in 1923 clearly demonstrated the great value of Zeeman effect in spectral term analyses, a quarter of a century elapsed before fur-

ther determinations of inner quantum numbers and magnetic splitting factors were undertaken for Mn I.

Through the courtesy of George R. Harrison, Catalán was invited, in 1949, to photograph the Zeeman effect in manganese spectra with the Bitter magnet and large concave gratings previously described by Harrison and Bitter [22]. The electrodes were prepared with pure manganese powder mixed with pure silver powder, then pressed and sintered to form solid rods about 3 mm square. These electrodes were ignited in a d-c arc operated in a magnet producing a field of 85,000 oersteds, and the spectra were photographed between 2300 Å and 6500 Å. These spectrograms were measured and computed partly at the National Bureau of Standards in Washington and partly at the Institute of Optics in Madrid.

In those experiments, the magnetic field intensity was determined from the splitting of the resonance lines (3280.7 and 3382.9 Å) of the silver matrix, and/or from the resonance lines (3933.7 Å and 3968.5 Å) of ionized calcium, present as an impurity, assuming that the Zeeman patterns of those lines agree exactly with the Landé predictions [7]. Then all displacements of Zeeman components and magnetic splitting factors were expressed in Lorentz units (the unit displacement characterizing all singlet levels). As a result of these experiments, Zeeman data have been obtained for 440 lines of Mn I, ranging from 2461.0 Å to 6021.8 Å, thus providing material for several reports extending over a decade.

The observations of normal Zeeman splitting in Mn I by Back [6] in 1923 were made in magnetic fields of 37,000 oersteds, whereas the Zeeman-effect spectrograms obtained by Catalán in 1949 recorded magnetic splitting in fields of 85,000 oersteds. Catalán and Velasco [23] observed changes in *g*-values of Mn I with magnetic fields above 80,000 oersteds which distort some Zeeman patterns. These distortions in the case of  $z^6F_{0\frac{1}{2}}$  and  $z^6F_{1\frac{1}{2}}$  levels were ascribed to repulsions between magnetic levels with equal *M*-values, belonging to adjacent levels of a spectral term, and it was shown that the theory of partial Paschen-Back effects provides a simple rule for obtaining correct *g*-values in spite of asymmetries in Zeeman patterns. This was elaborated by Catalán [24] who discussed in detail a dozen distorted patterns and concluded that the experimental *g*-values agreed with those predicted for *LS* coupling by Landé [7]. Finally, Espinosa [25, 26], in connection with his doctoral thesis, made a complete theoretical interpretation of the very complex Paschen-Back patterns of the  $z^6P^o - e^6D$  and  $a^6S - z^6P^o$  multiplets of Mn I.

The major contributions to *g*-factors for Mn I levels have been published in two papers separated by nine years. The first, by Catalán and García-Riquelme [27], reported measurements of Zeeman patterns for 128 lines ranging in wavelength from 2794.817 Å to 4823.528 Å, and derived *g*-factors for 93 levels, the latter ranging in value from 0 to 67752.84 K. The second, by Riquelme et al. [28],

presented measurements and interpretations of the Zeeman patterns of 314 lines (2573 Å to 6022 Å), including derived *g*-values for 105 energy levels. The data for 251 lines were totally interpreted, whereas 63 lines showing some Paschen-Back effect were partially interpreted as confirming the spectral classification. In addition to the above, García-Riquelme [29] has compiled and exploited inferior Zeeman data for about 100 lines of Mn I, most of which appeared as pseudo doublets, triplets, or quartets because they were incompletely observed or resolved. In most cases, the Landé type of Zeeman pattern could be recognized and for classified lines the observed Zeeman effect confirms the classification quantitatively. Because most of the Zeeman data for Mn I have been published elsewhere [23, 24, 25, 26, 27, 28] they will not be repeated here; only the type numbers [32, 34] will be listed in our list of classified lines, and the average derived *g*-values in our table of spectral terms.

Following the new observations of wavelengths and intensities of more than 2000 spectral lines belonging to Mn I, and the measurement of Zeeman patterns for nearly 500 lines, Catalán and García-Riquelme undertook a complete revision of the analysis and quantum interpretation of this spectrum. A preview of this overall revision was summarized by Moore [21] in 1952 when 368 energy levels were reported to account for more than 1500 lines. This work continued practically until Catalán's death in 1957, and further progress was made by García-Riquelme until 1962 when the total number of accepted levels rose to 404 and classified lines exceeded 2000. At this point, several hundred unclassified lines, mostly weak, hazy, and without Zeeman data, were sent to the National Bureau of Standards where Meggers applied an electronic computer to a final search for new energy levels by adding the wave numbers of lines to the wave numbers of levels and seeking constant sums within tolerated limits. Among hundreds of "new energy levels", only two were accepted as physically real; they constitute the term  $a^2I$  with level values of 37148.66 and 37164.25 K. We conclude that the available material on Mn I does not permit further progress in the analysis of this spectrum. This conclusion and the fact that our material is more homogeneous and extensive than any existing description of Mn I justify publication of this paper.

### 3. Results

Our final results for Mn I classified lines are presented in table 1, in which col. 1 contains the observed wavelength ( $\lambda$ ) in angstroms (Å); col. 2, the intensity and character; col. 3, the wave number ( $\sigma$ ) in kaysers (K); col. 4, the observed minus calculated wave number in kaysers (K); col. 5, the symbols for associated energy levels; and col. 6, the Zeeman type. Since the "Air" wavelengths were measured before 1950, they were converted to vacuum wave numbers with the aid of Kayser's Table [30] which was recently superseded by a new table published by Coleman, Bozman, and Meggers [31]. Because

TABLE 1. Mn I—*Classified lines*

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å Vac		K	K		
1785. 355	7h	56011. 26	-1. 16	$a \ ^6S_{2\frac{1}{2}} - s \ ^6P_{3\frac{1}{2}}$	
1785. 465	5h	56007. 81	-0. 10	$a \ ^6S_{2\frac{1}{2}} - s \ ^6P_{2\frac{1}{2}}$	
1785. 829	6h	55996. 40	-0. 22	$a \ ^6S_{2\frac{1}{2}} - s \ ^6P_{1\frac{1}{2}}$	
1788. 152	2h	55923. 65	-0. 16	$a \ ^6S_{2\frac{1}{2}} - 55923 \ ^3S_{\frac{1}{2}}$	
1875. 727	10r	53312. 66	1. 29	$a \ ^6S_{2\frac{1}{2}} - t \ ^6P_{1\frac{1}{2}}$	
1876. 445	15r	53292. 26	0. 68	$a \ ^6S_{2\frac{1}{2}} - t \ ^6P_{2\frac{1}{2}}$	
1877. 518	20r	53261. 80	0. 38	$a \ ^6S_{2\frac{1}{2}} - t \ ^6P_{3\frac{1}{2}}$	
1882. 366	3	53124. 63	0. 54	$a \ ^6S_{2\frac{1}{2}} - y \ ^4D_{3\frac{1}{2}}$	
1882. 900	1	53109. 56	0. 35	$a \ ^6S_{2\frac{1}{2}} - y \ ^4D_{2\frac{1}{2}}$	
1883. 085	0	53104. 34	1. 15	$a \ ^6S_{2\frac{1}{2}} - y \ ^4D_{1\frac{1}{2}}$	
1890. 962	1	52883. 13	-0. 74	$a \ ^6S_{2\frac{1}{2}} - x \ ^6D_{2\frac{1}{2}}, \ 1\frac{1}{2}$	
1891. 414	3	52870. 49	0. 39	$a \ ^6S_{2\frac{1}{2}} - x \ ^6D_{3\frac{1}{2}}$	
1913. 752	(15)	52253. 57	0. 33	$a \ ^6S_{2\frac{1}{2}} - u \ ^6P_{3\frac{1}{2}}$	
1918. 328	(15)	52128. 73	0. 08	$a \ ^6S_{2\frac{1}{2}} - u \ ^6P_{2\frac{1}{2}}$	
1922. 516	(12)	52015. 17	0. 17	$a \ ^6S_{2\frac{1}{2}} - u \ ^6P_{1\frac{1}{2}}$	
1949. 100	3	51305. 73	0. 32	$a \ ^6S_{2\frac{1}{2}} - x \ ^4P_{2\frac{1}{2}}$	
1996. 056	50R	50098. 79	-0. 37	$a \ ^6S_{2\frac{1}{2}} - v \ ^6P_{1\frac{1}{2}}$	
1999. 511	100R	50012. 23	-0. 30	$a \ ^6S_{2\frac{1}{2}} - v \ ^6P_{2\frac{1}{2}}$	
Air					
2003. 849	200R	49887. 73	-0. 35	$a \ ^6S_{2\frac{1}{2}} - v \ ^6P_{3\frac{1}{2}}$	
2017. 630	3	49547. 04	-0. 84	$a \ ^6D_{4\frac{1}{2}} - 66600 \ ^3S_{\frac{1}{2}}?$	
2018. 332	4	49529. 78	0. 00	$a \ ^6D_{2\frac{1}{2}} - 66981 \ ^3S_{\frac{1}{2}}$	
2070. 988	5	48270. 66	-0. 25	$a \ ^6S_{2\frac{1}{2}} - y \ ^6F_{2\frac{1}{2}}$	
2072. 917	12	48225. 74	-0. 25	$a \ ^6S_{2\frac{1}{2}} - y \ ^6F_{3\frac{1}{2}}$	
2092. 159	500R	47782. 26	-0. 17	$a \ ^6S_{2\frac{1}{2}} - u \ ^6P_{1\frac{1}{2}}$	
2092. 516	50R	47774. 09	-0. 43	$a \ ^6S_{2\frac{1}{2}} - y \ ^6D_{3\frac{1}{2}}$	
2093. 407	200R	47753. 77	-0. 22	$a \ ^6S_{2\frac{1}{2}} - y \ ^6D_{2\frac{1}{2}}$	
2097. 554	30	47659. 38	-0. 14	$a \ ^6S_{2\frac{1}{2}} - w \ ^6P_{3\frac{1}{2}}$	
2106. 052	100R	47467. 10	0. 44	$a \ ^6S_{2\frac{1}{2}} - y \ ^6D_{1\frac{1}{2}}$	
2109. 585	300R	47387. 60	-0. 02	$a \ ^6S_{2\frac{1}{2}} - w \ ^6P_{3\frac{1}{2}}$	
2173. 195	3h	46001. 72	0. 95	$a \ ^6S_{2\frac{1}{2}} - y \ ^8P_{3\frac{1}{2}}?$	
2174. 12	0h	45981. 2	-0. 2	$a \ ^6S_{2\frac{1}{2}} - y \ ^8P_{2\frac{1}{2}}$	
2176. 014	2	45941. 14	0. 21	$a \ ^6S_{2\frac{1}{2}} - z \ ^4D_{3\frac{1}{2}}$	
2182. 773	15	45798. 90	-0. 28	$a \ ^6D_{4\frac{1}{2}} - w \ ^6D_{3\frac{1}{2}}$	
2184. 912	10	45754. 07	-0. 20	$a \ ^6S_{2\frac{1}{2}} - z \ ^4D_{3\frac{1}{2}}$	
2190. 884	2	45629. 37	-0. 39	$a \ ^6D_{2\frac{1}{2}} - y \ ^2D_{2\frac{1}{2}}$	
2191. 413	100	45618. 36	-0. 16	$a \ ^6D_{4\frac{1}{2}} - w \ ^6D_{4\frac{1}{2}}$	
2193. 762	20	45569. 51	0. 04	$a \ ^6D_{3\frac{1}{2}} - w \ ^6D_{3\frac{1}{2}}$	
2196. 503	3	45512. 65	-0. 15	$a \ ^6D_{1\frac{1}{2}} - w \ ^2D_{2\frac{1}{2}}$	
2198. 131	10	45478. 94	-0. 39	$a \ ^6D_{3\frac{1}{2}} - w \ ^6D_{2\frac{1}{2}}$	
2199. 41	1h	45452. 5	-0. 5	$a \ ^6D_{4\frac{1}{2}} - v \ ^4F_{3\frac{1}{2}}$	
2201. 960	7	45399. 88	-0. 07	$a \ ^6D_{2\frac{1}{2}} - w \ ^6D_{3\frac{1}{2}}$	
2202. 489	2	45388. 97	0. 16	$a \ ^6D_{3\frac{1}{2}} - w \ ^6D_{4\frac{1}{2}}$	
2205. 057	10	45336. 11	0. 00	$a \ ^6D_{2\frac{1}{2}} - w \ ^6D_{1\frac{1}{2}}$	
2206. 343	2	45309. 70	-0. 11	$a \ ^6D_{2\frac{1}{2}} - w \ ^6D_{2\frac{1}{2}}$	
2208. 806	200R	45259. 17	0. 00	$a \ ^6S_{2\frac{1}{2}} - x \ ^6P_{1\frac{1}{2}}$	
2210. 582	8h	45222. 81	-0. 48	$a \ ^6D_{3\frac{1}{2}} - v \ ^4F_{3\frac{1}{2}}$	
2211. 720	8	45199. 55	-0. 13	$a \ ^6D_{1\frac{1}{2}} - w \ ^6D_{0\frac{1}{2}}$	
2212. 055	15	45192. 70	-0. 15	$a \ ^6D_{1\frac{1}{2}} - w \ ^6D_{2\frac{1}{2}}$	
2213. 855	300R	45155. 96	-0. 15	$a \ ^6S_{2\frac{1}{2}} - x \ ^6P_{2\frac{1}{2}}$	
2214. 10	10	45150. 4	-0. 1	$a \ ^6D_{0\frac{1}{2}} - w \ ^6D_{1\frac{1}{2}}$	
2215. 086	3	45130. 89	-0. 12	$a \ ^6D_{0\frac{1}{2}} - w \ ^6D_{0\frac{1}{2}}$	
2218. 903	3h	45053. 24	-0. 53	$a \ ^6D_{2\frac{1}{2}} - v \ ^4F_{3\frac{1}{2}}$	
2221. 837	500R	44993. 76	-0. 16	$a \ ^6S_{2\frac{1}{2}} - x \ ^6P_{3\frac{1}{2}}$	
2249. 911	5s	44432. 39	-0. 13	$a \ ^6D_{3\frac{1}{2}} - y \ ^2G_{4\frac{1}{2}}$	
2258. 714	2	44259. 24	-0. 22	$a \ ^6D_{2\frac{1}{2}} - z \ ^2F_{3\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å		K	K		
Air					
2262. 294	8s	44189. 21	—0. 02	$a \ ^6D_{3\frac{1}{2}} - w \ ^4G_{3\frac{1}{2}}$	
2277. 065	0h	43902. 60	—0. 15	$a \ ^6D_{1\frac{1}{2}} - w \ ^4G_{2\frac{1}{2}}$	
2288. 449	20	43684. 22	—0. 41	$a \ ^4D_{3\frac{1}{2}} - 66981_{3\frac{1}{2}}$	
2292. 189	30	43612. 95	—0. 40	$a \ ^4D_{3\frac{1}{2}} - 66910_{2\frac{1}{2}}$	
2293. 122	2	43595. 21	—0. 29	$a \ ^6S_{2\frac{1}{2}} - z \ ^6F_{2\frac{1}{2}}$	
2296. 880	5	43523. 88	—0. 20	$a \ ^6S_{2\frac{1}{2}} - z \ ^6F_{3\frac{1}{2}}$	
2298. 876	20	43486. 10	—0. 28	$a \ ^4D_{3\frac{1}{2}} - u \ ^4F_{3\frac{1}{2}}$	
2300. 300	8	43459. 18	—0. 16	$a \ ^4D_{2\frac{1}{2}} - 67008_{2\frac{1}{2}}$	
2300. 728	3H	43451. 10	—0. 18	$a \ ^6D_{2\frac{1}{2}} - w \ ^4F_{3\frac{1}{2}}$	
2301. 260	1d	43441. 07	—0. 08	$a \ ^4D_{3\frac{1}{2}} - v \ ^2G_{3\frac{1}{2}}$	
2301. 748	4	43431. 84	—0. 26	$a \ ^4D_{2\frac{1}{2}} - 66981_{3\frac{1}{2}}$	
2305. 518	5	43360. 83	0. 01	$a \ ^4D_{2\frac{1}{2}} - 66910_{3\frac{1}{2}}$	
2305. 703	15H	43357. 35	—0. 63	$a \ ^4D_{3\frac{1}{2}} - 66654_{2\frac{1}{2}}$	
2309. 057	2h	43294. 38	—0. 21	$a \ ^4D_{2\frac{1}{2}} - u \ ^4F_{1\frac{1}{2}}$	
2309. 374	10	43288. 45	0. 01	$a \ ^4D_{2\frac{1}{2}} - u \ ^4F_{2\frac{1}{2}}$	
2312. 304	20	43233. 59	—0. 26	$a \ ^4D_{2\frac{1}{2}} - u \ ^4F_{3\frac{1}{2}}$	
2318. 17	1h	43124. 2	—0. 1	$a \ ^4D_{1\frac{1}{2}} - u \ ^4F_{1\frac{1}{2}}$	
2318. 501	2h	43118. 04	—0. 08	$a \ ^4D_{1\frac{1}{2}} - u \ ^4F_{2\frac{1}{2}}$	
2321. 995	10h	43053. 16	0. 00	$a \ ^4G_{4\frac{1}{2}} - u \ ^2G_{3\frac{1}{2}}$	
2322. 106	3h	43051. 11	{ 0. 26   0. 14	$a \ ^4G_{3\frac{1}{2}} - u \ ^2G_{3\frac{1}{2}}$ $a \ ^4D_{2\frac{1}{2}} - 66600_{3\frac{1}{2}}$	
2323. 748	30h	43020. 70	0. 00	$a \ ^4G_{5\frac{1}{2}} - u \ ^2G_{4\frac{1}{2}}$	
2324. 803	5h	43001. 17	0. 16	$a \ ^4G_{4\frac{1}{2}} - u \ ^2G_{4\frac{1}{2}}$	
2327. 308	2H	42954. 89	—0. 12	$a \ ^4D_{2\frac{1}{2}} - 66504_{1\frac{1}{2}}$	
2342. 088	3H	42683. 85	0. 02	$a \ ^4G_{2\frac{1}{2}} - t \ ^4G_{2\frac{1}{2}}$	
2342. 771	1H	42676. 87	—0. 26	$a \ ^4G_{3\frac{1}{2}} - t \ ^4G_{2\frac{1}{2}}$	
2346. 126	1H	42610. 38	0. 06	$a \ ^4G_{2\frac{1}{2}} - t \ ^4G_{3\frac{1}{2}}$	
2346. 383	2h	42605. 72	—0. 21	$a \ ^4G_{4\frac{1}{2}} - t \ ^4G_{3\frac{1}{2}}$	
2346. 497	5h	42603. 65	0. 03	$a \ ^4G_{3\frac{1}{2}} - t \ ^4G_{3\frac{1}{2}}$	
2349. 263	3h	42553. 50	0. 07	$a \ ^4G_{5\frac{1}{2}} - t \ ^4G_{4\frac{1}{2}}$	
2350. 352	10h	42533. 78	0. 04	$a \ ^4G_{4\frac{1}{2}} - t \ ^4G_{4\frac{1}{2}}$	
2352. 937	20h	42487. 05	—0. 05	$a \ ^4G_{5\frac{1}{2}} - t \ ^4G_{3\frac{1}{2}}$	
2354. 020	4h	42467. 51	0. 10	$a \ ^4G_{4\frac{1}{2}} - t \ ^4G_{3\frac{1}{2}}$	
2357. 899	2h	42397. 65	—0. 02	$a \ ^4D_{2\frac{1}{2}} - w \ ^2D_{2\frac{1}{2}}$	
2362. 719	1	42311. 17	0. 07	$a \ ^4G_{5\frac{1}{2}} - w \ ^2H_{4\frac{1}{2}}$	
2363. 823	4	42291. 41	0. 00	$a \ ^4G_{4\frac{1}{2}} - w \ ^2H_{4\frac{1}{2}}$	
2363. 956	1	42289. 03	—0. 07	$a \ ^4G_{3\frac{1}{2}} - w \ ^2H_{4\frac{1}{2}}$	
2366. 575	1	42242. 24	—0. 14	$a \ ^4D_{1\frac{1}{2}} - w \ ^2D_{1\frac{1}{2}}$	
2366. 744	5	42239. 22	0. 06	$a \ ^4G_{5\frac{1}{2}} - w \ ^2H_{5\frac{1}{2}}$	
2367. 851	1	42219. 47	0. 00	$a \ ^4G_{4\frac{1}{2}} - w \ ^2H_{5\frac{1}{2}}$	
2372. 116	10d	42143. 56	—0. 01	$a \ ^6S_{2\frac{1}{2}} - z \ ^6D_{1\frac{1}{2}}$	
2377. 183	30R	42053. 75	0. 02	$a \ ^6S_{2\frac{1}{2}} - z \ ^6D_{2\frac{1}{2}}$	
2382. 175	2	41965. 63	0. 02	$a \ ^4D_{3\frac{1}{2}} - w \ ^2G_{4\frac{1}{2}}$	
2384. 049	40R	41932. 65	0. 01	$a \ ^6S_{2\frac{1}{2}} - z \ ^6D_{3\frac{1}{2}}$	
2397. 732	2	41693. 37	—0. 19	$a \ ^4G_{3\frac{1}{2}} - 66981_{3\frac{1}{2}}$	
2401. 830	2	41622. 24	—0. 04	$a \ ^4G_{3\frac{1}{2}} - 66910_{2\frac{1}{2}}$	
2403. 748	2	41589. 03	—0. 23	$a \ ^4G_{5\frac{1}{2}} - u \ ^4F_{3\frac{1}{2}}$	
2404. 882	5	41569. 42	—0. 15	$a \ ^4G_{4\frac{1}{2}} - u \ ^4F_{4\frac{1}{2}}$	
2405. 274	3	41562. 65	—0. 10	$a \ ^4G_{2\frac{1}{2}} - u \ ^4F_{1\frac{1}{2}}$	
2405. 628	2h	41556. 53	—0. 07	$a \ ^4G_{2\frac{1}{2}} - u \ ^4F_{2\frac{1}{2}}$	
2406. 017	2	41549. 82	—0. 08	$a \ ^4G_{3\frac{1}{2}} - u \ ^4F_{2\frac{1}{2}}$	
2409. 198	2	41494. 96	—0. 35	$a \ ^4G_{3\frac{1}{2}} - u \ ^4F_{3\frac{1}{2}}$	
2411. 415	2	41456. 81	0. 03	$a \ ^4G_{2\frac{1}{2}} - v \ ^2G_{3\frac{1}{2}}$	
2417. 502	2	41352. 44	—0. 09	$a \ ^4D_{3\frac{1}{2}} - x \ ^2G_{3\frac{1}{2}}$	
2417. 909	2	41345. 48	—0. 01	$a \ ^4G_{4\frac{1}{2}} - v \ ^2G_{4\frac{1}{2}}$	
2418. 042	4	41343. 20	0. 02	$a \ ^4G_{3\frac{1}{2}} - v \ ^2G_{4\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å Air		K	K		
2420. 110	30	41307. 88	0. 02	$a^4G_{3\frac{1}{2}} - u^4G_{3\frac{1}{2}}$	
2420. 403	30	41302. 88	0. 04	$a^4G_{3\frac{1}{2}} - u^4H_{3\frac{1}{2}}$	
2421. 254	20d	41288. 38	{ 0. 21 — 0. 39	$a^4G_{4\frac{1}{2}} - u^4G_{5\frac{1}{2}}$ $a^4D_{3\frac{1}{2}} - x^2G_{4\frac{1}{2}}$	
2423. 099	6	41256. 93	0. 05	$a^4G_{3\frac{1}{2}} - u^4G_{4\frac{1}{2}}$	
2424. 260	30	41237. 17	— 0. 02	$a^4G_{4\frac{1}{2}} - u^4G_{3\frac{1}{2}}$	
2424. 385	1	41235. 04	0. 16	$a^4G_{3\frac{1}{2}} - u^4G_{4\frac{1}{2}}$	
2428. 286	8	41168. 81	— 0. 03	$a^4G_{4\frac{1}{2}} - u^4G_{3\frac{1}{2}}$	
2428. 423	25	41166. 49	— 0. 04	$a^4G_{3\frac{1}{2}} - u^4G_{3\frac{1}{2}}$	
2428. 586	2h	41163. 72	— 0. 02	$a^4D_{2\frac{1}{2}} - u^4D_{2\frac{1}{2}}$	
2429. 233	30	41152. 76	— 0. 05	$a^4G_{3\frac{1}{2}} - u^4H_{3\frac{1}{2}}$	
2430. 395	35	41133. 08	— 0. 04	$a^4G_{4\frac{1}{2}} - u^4H_{3\frac{1}{2}}$	
2431. 520	40	41114. 06	— 0. 09	$a^4G_{3\frac{1}{2}} - u^4G_{2\frac{1}{2}}$	
2431. 587	4h	41112. 92	— 0. 10	$a^4D_{3\frac{1}{2}} - u^4D_{3\frac{1}{2}}$	
2431. 915	10	41107. 38	— 0. 07	$a^4G_{3\frac{1}{2}} - u^4G_{2\frac{1}{2}}$	
2432. 360	8	41099. 86	— 0. 14	$a^4D_{2\frac{1}{2}} - x^2G_{3\frac{1}{2}}$	
2432. 898	7	41090. 77	0. 11	$a^4G_{3\frac{1}{2}} - u^4H_{4\frac{1}{2}}$	
2434. 071	30	41070. 97	0. 00	$a^4G_{4\frac{1}{2}} - u^4H_{4\frac{1}{2}}$	
2434. 208	35	41068. 65	— 0. 01	$a^4G_{3\frac{1}{2}} - u^4H_{3\frac{1}{2}}$	
2435. 137	40	41053. 00	— 0. 43	$a^4G_{2\frac{1}{2}} - u^4H_{3\frac{1}{2}}$	
2435. 376	5	41048. 96	— 0. 08	$a^4G_{4\frac{1}{2}} - u^4H_{3\frac{1}{2}}$	
2435. 511	20	41046. 69	— 0. 04	$a^4G_{3\frac{1}{2}} - u^4H_{3\frac{1}{2}}$	
2440. 415	2	40964. 19	— 0. 24	$a^4D_{3\frac{1}{2}} - u^4D_{3\frac{1}{2}}$	
2446. 159	1	40868. 03	— 0. 03	$a^4G_{2\frac{1}{2}} - u^2F_{3\frac{1}{2}}$	
2446. 561	2	40861. 31	— 0. 05	$a^4G_{3\frac{1}{2}} - u^2F_{3\frac{1}{2}}$	
2446. 610	2	40860. 49	0. 00	$a^4D_{2\frac{1}{2}} - u^4D_{3\frac{1}{2}}$	
2449. 047	2	40819. 83	0. 02	$a^4D_{0\frac{1}{2}} - u^4D_{0\frac{1}{2}}$	
2453. 870	6	40739. 62	0. 03	$a^4G_{2\frac{1}{2}} - u^2F_{2\frac{1}{2}}$	
2454. 262	3	40733. 11	0. 22	$a^4G_{3\frac{1}{2}} - u^2F_{2\frac{1}{2}}$	
2456. 878	3h	40689. 74	— 0. 08	$a^4P_{2\frac{1}{2}} - t^4G_{3\frac{1}{2}}$	
2458. 312	2	40666. 01	0. 18	$a^4G_{2\frac{1}{2}} - w^2D_{2\frac{1}{2}}$	
2459. 694	50	40643. 16	— 0. 02	$a^4G_{5\frac{1}{2}} - v^4G_{4\frac{1}{2}}$	
2460. 887	40	40623. 46	— 0. 03	$a^4G_{4\frac{1}{2}} - v^4G_{4\frac{1}{2}}$	
2461. 011	50	40621. 41	— 0. 16	$a^4G_{5\frac{1}{2}} - v^4G_{5\frac{1}{2}}$	6, 7b
2462. 190	7	40601. 96	0. 08	$a^4G_{4\frac{1}{2}} - v^4G_{5\frac{1}{2}}$	
2462. 596	3	40595. 27	— 0. 03	$a^4G_{2\frac{1}{2}} - v^4G_{5\frac{1}{2}}$	
2462. 776	20	40592. 31	— 0. 05	$a^4G_{2\frac{1}{2}} - v^4G_{2\frac{1}{2}}$	
2462. 863	5	40590. 88	— 0. 03	$a^4G_{4\frac{1}{2}} - v^4G_{3\frac{1}{2}}$	
2463. 005	40	40588. 53	— 0. 07	$a^4G_{3\frac{1}{2}} - v^4G_{3\frac{1}{2}}$	
2463. 182	6	40585. 61	— 0. 05	$a^4G_{2\frac{1}{2}} - v^4G_{2\frac{1}{2}}$	
2468. 207	2	40502. 99	— 0. 08	$a^4G_{5\frac{1}{2}} - 65768\frac{1}{2}$	
2469. 407	40	40483. 31	— 0. 07	$a^4G_{4\frac{1}{2}} - 65768\frac{1}{2}$	
2470. 330	4	40468. 19	— 0. 04	$a^4D_{3\frac{1}{2}} - x^2D_{2\frac{1}{2}}$	
2478. 803	2h	40329. 87	0. 24	$a^4G_{3\frac{1}{2}} - v^2F_{3\frac{1}{2}}$	
2481. 431	1	40287. 16	— 0. 01	$a^4D_{3\frac{1}{2}} - 63583\frac{1}{2}$	
2483. 743	8	40249. 66	0. 03	$a^4D_{3\frac{1}{2}} - 63546\frac{1}{2}$	
2485. 114	10hw	40227. 46	0. 31	$a^4D_{3\frac{1}{2}} - 63523\frac{1}{2}$	
2485. 842	5h	40215. 68	— 0. 02	$a^4D_{2\frac{1}{2}} - x^2D_{3\frac{1}{2}}$	
2491. 414	2	40125. 75	— 0. 05	$a^4D_{1\frac{1}{2}} - x^2D_{1\frac{1}{2}}$	
2494. 391	20	40077. 86	0. 00	$a^4D_{3\frac{1}{2}} - 63374\frac{1}{2}$	
2494. 585	5	40074. 74	— 0. 15	$a^4D_{3\frac{1}{2}} - 63371\frac{1}{2}$	
2496. 048	7	40051. 25	0. 01	$a^4D_{3\frac{1}{2}} - y^2H_{4\frac{1}{2}}$	
2496. 415	3	40045. 37	— 0. 01	$a^4D_{1\frac{1}{2}} - x^2D_{3\frac{1}{2}}$	
2497. 084	4	40034. 64	0. 00	$a^4D_{2\frac{1}{2}} - 63583\frac{1}{2}$	
2497. 597	4	40026. 42	— 0. 03	$a^4D_{0\frac{1}{2}} - x^2D_{1\frac{1}{2}}$	
2497. 725	15	40024. 37	0. 28	$a^4G_{2\frac{1}{2}} - w^2G_{3\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o-e$	Term designation	Zeeman type
Å Air		K	K		
2499.429	8	39997.08	-0.02	<i>a</i> $^4D_{2\frac{1}{2}}$ —63546 $_{3\frac{1}{2}}$	
2500.692	4	39976.88	0.03	<i>a</i> $^4G_{4\frac{1}{2}}$ — <i>w</i> $^2G_{1\frac{1}{2}}$	
2500.840	2	39974.52	{ -0.02 -0.10	<i>a</i> $^4G_{3\frac{1}{2}}$ — <i>w</i> $^2G_{1\frac{1}{2}}$ <i>a</i> $^4D_{2\frac{1}{2}}$ —63523 $_{2\frac{1}{2}}$	
2507.756	2h	39864.28	-0.04	<i>a</i> $^4D_{1\frac{1}{2}}$ —63583 $_{3\frac{1}{2}, 1\frac{1}{2}}$	
2511.351	2	39807.21	0.21	<i>a</i> $^4P_{2\frac{1}{2}}$ —67008 $_{2\frac{1}{2}}$	
2511.538	4h	39804.26	-0.04	<i>a</i> $^4D_{1\frac{1}{2}}$ —63523 $_{2\frac{1}{2}}$	
2513.086	1	39779.74	-0.02	<i>a</i> $^4P_{2\frac{1}{2}}$ —66981 $_{3\frac{1}{2}}$	
2514.314	40	39760.31	-0.23	<i>a</i> $^4P_{1\frac{1}{2}}$ —67008 $_{2\frac{1}{2}}$	
2517.580	2	39708.74	0.26	<i>a</i> $^4P_{5\frac{1}{2}}$ —66910 $_{2\frac{1}{2}}$	
2517.677	1	39707.21	0.03	<i>a</i> $^4G_{2\frac{1}{2}}$ — <i>w</i> $^2F_{3\frac{1}{2}}$	
2517.960	1	39702.75	-0.04	<i>a</i> $^4G_{4\frac{1}{2}}$ — <i>w</i> $^2F_{3\frac{1}{2}}$	
2521.986	7	39639.37	0.08	<i>a</i> $^4G_{2\frac{1}{2}}$ — <i>v</i> $^4H_{3\frac{1}{2}}$	
2522.185	2	39636.25	0.15	<i>a</i> $^4P_{2\frac{1}{2}}$ — <i>u</i> $^4F_{2\frac{1}{2}}$	
2522.274	4	39634.84	-0.06	<i>a</i> $^4G_{4\frac{1}{2}}$ — <i>v</i> $^4H_{3\frac{1}{2}}$	
2524.472	10	39600.34	0.08	<i>a</i> $^4G_{3\frac{1}{2}}$ — <i>v</i> $^4H_{3\frac{1}{2}}$	
2525.669	8	39581.57	0.06	<i>a</i> $^4P_{2\frac{1}{2}}$ — <i>u</i> $^4F_{3\frac{1}{2}}$	
2528.184	2	39542.20	0.03	<i>a</i> $^4G_{2\frac{1}{2}}$ — <i>w</i> $^2F_{2\frac{1}{2}}$	
2528.700	8	39534.13	0.03	<i>a</i> $^4G_{3\frac{1}{2}}$ — <i>v</i> $^4H_{5\frac{1}{2}}$	
2533.050	20	39466.24	0.10	<i>a</i> $^4G_{5\frac{1}{2}}$ — <i>v</i> $^4H_{6\frac{1}{2}}$	
2533.896	2h	39453.07	-0.04	<i>a</i> $^4P_{2\frac{1}{2}}$ —66654 $_{2\frac{1}{2}}$	
2536.878	5H	39406.69	0.04	<i>a</i> $^4P_{1\frac{1}{2}}$ —66654 $_{2\frac{1}{2}}$	
2539.642	9	39363.81	0.04	<i>a</i> $^4G_{4\frac{1}{2}}$ — <i>x</i> $^2G_{3\frac{1}{2}}$	
2539.792	5	39361.48	0.02	<i>a</i> $^4G_{3\frac{1}{2}}$ — <i>x</i> $^2G_{3\frac{1}{2}}$	
2542.491	10	39319.70	0.00	<i>a</i> $^4G_{5\frac{1}{2}}$ — <i>x</i> $^2G_{4\frac{1}{2}}$	
2543.593	2h	39302.67	0.00	<i>a</i> $^4P_{2\frac{1}{2}}$ —66504 $_{1\frac{1}{2}}$	
2543.763	4	39300.04	0.03	<i>a</i> $^4G_{4\frac{1}{2}}$ — <i>x</i> $^2G_{4\frac{1}{2}}$	
2546.582	4h	39256.54	0.33	<i>a</i> $^4P_{1\frac{1}{2}}$ —66504 $_{1\frac{1}{2}}$	
2548.80	3H	39222.4	0.0	<i>a</i> $^4P_{0\frac{1}{2}}$ —66504 $_{1\frac{1}{2}}$	
2557.040	3	39096.00	-0.15	<i>a</i> $^4D_{3\frac{1}{2}}$ — <i>v</i> $^4F_{4\frac{1}{2}}$	
2565.952	4h	38960.22	0.09	<i>a</i> $^6D_{4\frac{1}{2}}$ — <i>s</i> $^6P_{3\frac{1}{2}}$	
2566.230	1h	38956.00	-0.09	<i>a</i> $^4D_{2\frac{1}{2}}$ — <i>v</i> $^4F_{3\frac{1}{2}}$	
2566.783	2	38947.61	0.05	<i>a</i> $^4P_{2\frac{1}{2}}$ — <i>u</i> $^2F_{3\frac{1}{2}}$	
2567.40	1H	38938.3	0.1	<i>a</i> $^4D_{2\frac{1}{2}}$ — <i>v</i> $^4F_{2\frac{1}{2}}$	
2572.755	50R	38857.20	-0.06	<i>z</i> $^8P_{3\frac{1}{2}}$ — <i>e</i> $^8P_{4\frac{1}{2}}$	
2575.509	20R	38815.66	-0.03	<i>z</i> $^8P_{2\frac{1}{2}}$ — <i>e</i> $^8P_{3\frac{1}{2}}$	
2577.470	6	38786.13	-0.04	<i>a</i> $^4G_{5\frac{1}{2}}$ — <i>x</i> $^2H_{3\frac{1}{2}}$	
2578.358	2	38772.77	0.14	<i>a</i> $^4P_{1\frac{1}{2}}$ — <i>u</i> $^2F_{2\frac{1}{2}}$	
2578.548	2	38769.92	-0.02	<i>a</i> $^4G_{4\frac{1}{2}}$ — <i>x</i> $^2H_{4\frac{1}{2}}$	
2578.695	2h	38767.71	-0.13	<i>a</i> $^4D_{1\frac{1}{2}}$ — <i>v</i> $^4F_{2\frac{1}{2}}$	
2579.18	1	38760.4	0.0	<i>a</i> $^4P_{2\frac{1}{2}}$ — <i>w</i> $^2D_{1\frac{1}{2}}$	
2580.180	3	38745.40	0.07	<i>a</i> $^4P_{2\frac{1}{2}}$ — <i>w</i> $^2D_{2\frac{1}{2}}$	
2581.183	2h	38730.34	-0.08	<i>a</i> $^6D_{3\frac{1}{2}}$ — <i>s</i> $^6P_{3\frac{1}{2}}$	
2581.478	3h	38725.91	0.00	<i>a</i> $^6D_{3\frac{1}{2}}$ — <i>s</i> $^6P_{2\frac{1}{2}}$	
2582.270	5	38714.04	0.14	<i>a</i> $^4P_{1\frac{1}{2}}$ — <i>w</i> $^2D_{1\frac{1}{2}}$	
2583.275	7	38698.98	0.11	<i>a</i> $^4P_{1\frac{1}{2}}$ — <i>w</i> $^2D_{2\frac{1}{2}}$	
2584.100	10	38686.62	0.11	<i>z</i> $^8P_{3\frac{1}{2}}$ — <i>e</i> $^8P_{3\frac{1}{2}}$	
2584.302	100R	38683.60	{ -0.27 0.07	<i>z</i> $^8P_{2\frac{1}{2}}$ — <i>e</i> $^8P_{2\frac{1}{2}}$ <i>z</i> $^8P_{0\frac{1}{2}}$ — <i>e</i> $^8P_{1\frac{1}{2}}$	7b
2584.540	2	38680.04	-0.01	<i>a</i> $^4P_{0\frac{1}{2}}$ — <i>w</i> $^2D_{1\frac{1}{2}}$	
2587.100	1h	38641.77	-0.04	<i>a</i> $^6D_{3\frac{1}{2}}$ —55923 $_{2\frac{1}{2}}$	
2592.298	6	38564.29	0.01	<i>a</i> $^4G_{2\frac{1}{2}}$ — <i>x</i> $^2D_{1\frac{1}{2}}$	
2592.944	60R	38554.68	-0.01	<i>z</i> $^8P_{3\frac{1}{2}}$ — <i>e</i> $^8P_{2\frac{1}{2}}$	4
2595.763	80R	38512.81	0.03	<i>z</i> $^8P_{4\frac{1}{2}}$ — <i>e</i> $^8P_{3\frac{1}{2}}$	
2597.722	2	38483.77	-0.09	<i>a</i> $^4G_{2\frac{1}{2}}$ — <i>x</i> $^2D_{3\frac{1}{2}}$	
2598.172	6	38477.11	-0.05	<i>a</i> $^4G_{3\frac{1}{2}}$ — <i>x</i> $^2D_{2\frac{1}{2}}$	
2600.220	8Hw	38446.80	0.00	<i>a</i> $^6D_{4\frac{1}{2}}$ — <i>y</i> $^8F_{3\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å		K	K		
Air					
2600. 650	6Hw	38440. 45	0.00	$a\ ^6D_{4\frac{1}{2}}—v\ ^6F_{5\frac{1}{2}}$	
2601. 486	2	38428. 09	-0.05	$a\ ^6D_{1\frac{1}{2}}—s\ ^6P_{1\frac{1}{2}}$	
2603. 487	1Hw	38398. 57	-0.3	$z\ ^8P_{3\frac{1}{2}}—h\ ^8D$	
2606. 137	1H	38359. 52	0.05	$a\ ^6D_{0\frac{1}{2}}—s\ ^6P_{1\frac{1}{2}}$	
2612. 233	5Hw	38270. 01	0.2	$z\ ^8P_{3\frac{1}{2}}—h\ ^8D$	
2612. 860	20	38260. 83	0.08	$a\ ^4G_{3\frac{1}{2}}—z\ ^2H_{4\frac{1}{2}}$	
2613. 006	1	38258. 69	0.13	$a\ ^4G_{3\frac{1}{2}}—63546\ ^6_{3\frac{1}{2}}$	
2614. 550	3	38236. 10	0.02	$a\ ^4G_{3\frac{1}{2}}—63523\ ^6_{2\frac{1}{2}}$	
2615. 850	5Hw	38217. 10	0.01	$a\ ^6D_{3\frac{1}{2}}—y\ ^8F_{4\frac{1}{2}}$	
2616. 300	4Hw	38210. 52	0.00	$a\ ^6D_{3\frac{1}{2}}—v\ ^6F_{4\frac{1}{2}}$	
2617. 564	1	38192. 07	-0.04	$a\ ^4G_{5\frac{1}{2}}—w\ ^4H_{5\frac{1}{2}}$	
2618. 470	4	38178. 86	-0.01	$a\ ^4G_{5\frac{1}{2}}—w\ ^4H_{4\frac{1}{2}}$	
2618. 911	20	38172. 43	0.01	$a\ ^4G_{4\frac{1}{2}}—w\ ^4H_{5\frac{1}{2}}$	
2619. 510	25	38163. 70	0.00	$a\ ^4G_{4\frac{1}{2}}—y\ ^2H_{5\frac{1}{2}}$	
2619. 819	5	38159. 20	0.02	$a\ ^4G_{4\frac{1}{2}}—w\ ^4H_{4\frac{1}{2}}$	
2619. 980	10	38156. 86	-0.01	$a\ ^4G_{3\frac{1}{2}}—w\ ^4H_{4\frac{1}{2}}$	
2622. 895	25	38114. 45	0.04	$a\ ^4G_{2\frac{1}{2}}—w\ ^4H_{3\frac{1}{2}}$	
2623. 284	8	38108. 80	0.01	$a\ ^4G_{5\frac{1}{2}}—63374\ ^6_{4\frac{1}{2}}$	
2623. 362	5	38107. 67	-0.04	$a\ ^4G_{3\frac{1}{2}}—w\ ^4H_{3\frac{1}{2}}$	
2624. 043	50	38097. 78	-0.02	$a\ ^4G_{5\frac{1}{2}}—w\ ^4H_{6\frac{1}{2}}$	4
2624. 466	1Hw	38096. 2	0.2	$z\ ^8P_{4\frac{1}{2}}—h\ ^8D$	
2624. 642	2	38089. 08	-0.02	$a\ ^4G_{4\frac{1}{2}}—63374\ ^6_{4\frac{1}{2}}$	
2624. 800	10	38086. 79	0.00	$a\ ^4G_{3\frac{1}{2}}—63374\ ^6_{4\frac{1}{2}}$	
2625. 120	3	38082. 15	-0.02	$a\ ^4G_{5\frac{1}{2}}—y\ ^2H_{4\frac{1}{2}}$	
2626. 635	20	38060. 19	0.02	$a\ ^4G_{3\frac{1}{2}}—y\ ^2H_{4\frac{1}{2}}$	
2627. 48	1Hw	38048. 0	0.0	$a\ ^6D_{2\frac{1}{2}}—y\ ^8F_{3\frac{1}{2}}$	
2627. 990	2Hw	38040. 56	0.00	$a\ ^6D_{2\frac{1}{2}}—v\ ^6F_{3\frac{1}{2}}$	
2628. 100		38038. 97	0.16	$a\ ^4G_{2\frac{1}{2}}—63319\ ^6_{3\frac{1}{2}}$	
2630. 260	8	38007. 74	0.00	$a\ ^4G_{2\frac{1}{2}}—x\ ^2F_{3\frac{1}{2}}$	
2630. 565	25	38003. 33	-0.02	$a\ ^4G_{4\frac{1}{2}}—z\ ^2H_{5\frac{1}{2}}$	
2630. 721	2	38001. 08	0.04	$a\ ^4G_{3\frac{1}{2}}—x\ ^2F_{3\frac{1}{2}}$	
2635. 551	4Hw	37931. 42	0.00	$a\ ^6D_{1\frac{1}{2}}—y\ ^8F_{2\frac{1}{2}}$	
2636. 131	2Hw	37923. 09	0.00	$a\ ^6D_{1\frac{1}{2}}—v\ ^6F_{2\frac{1}{2}}$	
2640. 340	1Hw	37862. 6	0.0	$a\ ^6D_{0\frac{1}{2}}—y\ ^8F_{1\frac{1}{2}}$	
2640. 619	4	37858. 64	-0.02	$a\ ^4G_{2\frac{1}{2}}—x\ ^2F_{2\frac{1}{2}}$	
2640. 887	1Hw	37854. 80	0.00	$a\ ^6D_{0\frac{1}{2}}—v\ ^6F_{1\frac{1}{2}}$	
2642. 403	3	37833. 08	0.01	$a\ ^4G_{2\frac{1}{2}}—y\ ^2D_{1\frac{1}{2}}$	
2645. 168	1	37793. 54	0.00	$a\ ^4G_{3\frac{1}{2}}—y\ ^2D_{2\frac{1}{2}}$	
2648. 800	3Hw	37741. 72	0.02	$z\ ^8P_{2\frac{1}{2}}—g\ ^8S_{3\frac{1}{2}}$	
2654. 824	1	37656. 09	0.09	$a\ ^6D_{2\frac{1}{2}}—x\ ^4D_{3\frac{1}{2}}$	
2655. 787	10h	37642. 43	0.13	$a\ ^4D_{3\frac{1}{2}}—w\ ^4F_{4\frac{1}{2}}$	
2657. 528	1	37617. 77	0.08	$a\ ^6D_{1\frac{1}{2}}—x\ ^4D_{2\frac{1}{2}}$	
2657. 898	8Hl	37612. 54	-0.05	$z\ ^8P_{3\frac{1}{2}}—q\ ^8S_{3\frac{1}{2}}$	
3658. 349	2	37606. 16	0.03	$a\ ^4D_{3\frac{1}{2}}—w\ ^4F_{3\frac{1}{2}}$	
2661. 20	2h	37566. 3	0.3	$a\ ^4G_{4\frac{1}{2}}—w\ ^6D_{3\frac{1}{2}}$	
2665. 064	4h	37511. 41	0.01	$a\ ^4P_{2\frac{1}{2}}—u\ ^4D_{2\frac{1}{2}}$	
2667. 263	1	37480. 49	0.20	$a\ ^4G_{2\frac{1}{2}}—w\ ^6D_{2\frac{1}{2}}$	
2667. 751	1	37473. 63	0.04	$a\ ^4G_{3\frac{1}{2}}—w\ ^6D_{2\frac{1}{2}}$	
2667. 882	1	37471. 79	0.04	$b\ ^4D_{2\frac{1}{2}}—t\ ^4G_{3\frac{1}{2}}$	
2668. 370	3h	37464. 94	{ 0.00 -0.02	$a\ ^4P_{1\frac{1}{2}}—u\ ^4D_{2\frac{1}{2}}$ $b\ ^4D_{3\frac{1}{2}}—t\ ^4G_{4\frac{1}{2}}$	
2670. 237	4Hw	37438. 74	-0.05	$z\ ^8P_{4\frac{1}{2}}—g\ ^8S_{3\frac{1}{2}}$	
2670. 435	4Hw	37435. 97	0.02	$a\ ^4P_{1\frac{1}{2}}—u\ ^4D_{1\frac{1}{2}}$	
2672. 85	1	37402. 2	0.1	$a\ ^4P_{1\frac{1}{2}}—u\ ^4D_{1\frac{1}{2}}$	
2673. 651	1	37390. 95	0.27	$a\ ^4P_{1\frac{1}{2}}—u\ ^4D_{0\frac{1}{2}}$	
2676. 090	3	37356. 87	0.04	$a\ ^4P_{0\frac{1}{2}}—u\ ^4D_{0\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o-e$	Term designation	Zeeman type
Air		$K$	$K$		
2676. 326	10	37353. 57	-0. 03	$a\ ^4D_{2\frac{1}{2}}-w\ ^4F_{3\frac{1}{2}}$	
2682. 244	2	37271. 16	0. 01	$a\ ^4D_{2\frac{1}{2}}-w\ ^4F_{2\frac{1}{2}}$	
2685. 941	8H	37219. 86	0. 00	$a\ ^4G_{4\frac{1}{2}}-v\ ^4F_{3\frac{1}{2}}$	
2686. 777	6	37208. 28	0. 13	$a\ ^4P_{2\frac{1}{2}}-u\ ^4D_{3\frac{1}{2}}$	
2687. 400	8h	37199. 66	0. 04	$a\ ^4G_{3\frac{1}{2}}-v\ ^4F_{2\frac{1}{2}}$	
2688. 078	2	37190. 28	0. 06	$a\ ^4D_{2\frac{1}{2}}-z\ ^2G_{3\frac{1}{2}}$	
2690. 977	2	37150. 21	-0. 05	$z\ ^8P_{3\frac{1}{2}}-h\ ^6D_{3\frac{1}{2}}$	
2692. 655	20	37127. 06	-0. 02	$a\ ^4G_{5\frac{1}{2}}-v\ ^4F_{4\frac{1}{2}}$	
2693. 757	2	37109. 12	-0. 04	$a\ ^4G_{2\frac{1}{2}}-v\ ^4F_{3\frac{1}{2}}$	
2694. 560	8	37100. 82	-0. 01	$a\ ^4D_{1\frac{1}{2}}-w\ ^4F_{2\frac{1}{2}}$	
2698. 890	2	37041. 30	-0. 05	$a\ ^4D_{1\frac{1}{2}}-w\ ^4F_{1\frac{1}{2}}$	
2703. 129	20Hw	36983. 21	0. 48	$z\ ^8P_{4\frac{1}{2}}-h\ ^6D_{3\frac{1}{2}}$	
2703. 658	50Hw	36975. 96	-0. 57	$z\ ^8P_{4\frac{1}{2}}-h\ ^6D_{4\frac{1}{2}}$	
2703. 92	40Hw	36972. 4	0. 1	$z\ ^8P_{2\frac{1}{2}}-g\ ^8D_{3\frac{1}{2}}$	
2706. 142	5	36942. 04	0. 04	$a\ ^4D_{0\frac{1}{2}}-w\ ^4F_{1\frac{1}{2}}$	
2713. 320	100Hw	36844. 31	0. 25	$z\ ^8P_{3\frac{1}{2}}-g\ ^8D_{4\frac{1}{2}}$	
2717. 028	4	36794. 04	0. 06	$a\ ^4G_{2\frac{1}{2}}-y\ ^2F_{3\frac{1}{2}}$	
2720. 387	2h	36748. 61	0. 00	$a\ ^4G_{4\frac{1}{2}}-y\ ^2F_{3\frac{1}{2}}$	
2720. 550	5h	36746. 41	0. 11	$a\ ^4G_{3\frac{1}{2}}-y\ ^2F_{3\frac{1}{2}}$	
2726. 13	100Hw	36671. 2	-0. 1	$z\ ^8P_{4\frac{1}{2}}-g\ ^8D_{3\frac{1}{2}}$	
2727. 381	1	36654. 37	0. 04	$b\ ^4D_{3\frac{1}{2}}-67008\ ^3S_{1\frac{1}{2}}$	
2729. 420	10	36627. 00	-0. 09	$b\ ^4D_{3\frac{1}{2}}-66981\ ^3S_{1\frac{1}{2}}$	
2732. 260	2	36588. 93	0. 00	$b\ ^4D_{2\frac{1}{2}}-67008\ ^3S_{1\frac{1}{2}}$	
2733. 167	1	36576. 78	0. 01	$a\ ^4D_{0\frac{1}{2}}-z\ ^2D_{1\frac{1}{2}}$	
2734. 164	1	36563. 45	{ -0. 09 -0. 02	$a\ ^4P_{2\frac{1}{2}}-x\ ^2D_{3\frac{1}{2}}$ $a\ ^4P_{0\frac{1}{2}}-x\ ^2D_{1\frac{1}{2}}$	
2734. 297	1	36561. 67	-0. 02	$b\ ^4D_{-2}-66981\ ^3S_{1\frac{1}{2}}$	
2734. 736	15	36555. 80	-0. 01	$b\ ^4D_{3\frac{1}{2}}-66910\ ^3S_{1\frac{1}{2}}$	
2734. 997	4	36552. 31	-0. 14	$a\ ^4D_{2\frac{1}{2}}-z\ ^2D_{2\frac{1}{2}}$	
2735. 310	1hw	36548. 13	-0. 07	$z\ ^8P_{2\frac{1}{2}}-g\ ^6D_{2\frac{1}{2}}$	
2737. 640	2	36517. 03	0. 13	$a\ ^4P_{1\frac{1}{2}}-x\ ^2D_{2\frac{1}{2}}$	
2738. 552	5	36504. 87	-0. 03	$a\ ^4G_{2\frac{1}{2}}-y\ ^2G_{3\frac{1}{2}}$	
2738. 861	25	36500. 75	-0. 04	$b\ ^4D_{3\frac{1}{2}}-u\ ^4F_{4\frac{1}{2}}$	
2739. 627	4	36490. 54	0. 13	$b\ ^4D_{2\frac{1}{2}}-66910\ ^3S_{1\frac{1}{2}}$	
2740. 161	1h	36483. 43	0. 00	$b\ ^4D_{3\frac{1}{2}}-u\ ^4F_{2\frac{1}{2}}$	
2740. 546	3Hw	36478. 31	0. 01	$a\ ^4G_{5\frac{1}{2}}-61744\ ^5S_{1\frac{1}{2}}$	
2742. 735	15	36449. 19	0. 41	$a\ ^4G_{3\frac{1}{2}}-y\ ^2G_{4\frac{1}{2}}?$	
2742. 930	1	36446. 60	0. 18	$a\ ^4G_{2\frac{1}{2}}-z\ ^2F_{3\frac{1}{2}}$	
2743. 446	10	36439. 75	0. 03	$a\ ^4G_{3\frac{1}{2}}-z\ ^2F_{2\frac{1}{2}}$	
2743. 790	5	36435. 18	-0. 09	$a\ ^4D_{3\frac{1}{2}}-x\ ^4G_{3\frac{1}{2}}$	
2744. 023	9	36432. 08	0. 03	$b\ ^4D_{0\frac{1}{2}}-u\ ^4F_{1\frac{1}{2}}$	
2744. 268	6h	36428. 84	{ -0. 25 0. 00	$a\ ^4G_{4\frac{1}{2}}-y\ ^2G_{4\frac{1}{2}}$ $b\ ^4D_{3\frac{1}{2}}-u\ ^4F_{3\frac{1}{2}}$	
2744. 519	6	36425. 51	-0. 04	$a\ ^4G_{4\frac{1}{2}}-z\ ^2F_{3\frac{1}{2}}$	
2744. 748	1	36422. 46	0. 00	$a\ ^4D_{1\frac{1}{2}}-w\ ^4D_{0\frac{1}{2}}$	
2745. 082	3	36418. 03	{ 0. 00 -0. 05	$b\ ^4D_{2\frac{1}{2}}-u\ ^4F_{2\frac{1}{2}}$ $b\ ^4D_{1\frac{1}{2}}-u\ ^4F_{1\frac{1}{2}}$	
2745. 549	10	36411. 84	-0. 09	$b\ ^4D_{1\frac{1}{2}}-u\ ^4F_{3\frac{1}{2}}$	
2745. 913	2h	36407. 01	0. 09	$z\ ^8P_{3\frac{1}{2}}-g\ ^6D_{4\frac{1}{2}}$	
2747. 785	4d	36382. 21	{ 0. 08 -0. 09	$a\ ^4D_{1\frac{1}{2}}-z\ ^2D_{2\frac{1}{2}}$ $a\ ^4P_{2\frac{1}{2}}-63583\ ^3S_{1\frac{1}{2}}, \ ^1S_{1\frac{1}{2}}$	
2749. 205	20h	36363. 42	-0. 02	$b\ ^4D_{2\frac{1}{2}}-u\ ^4F_{3\frac{1}{2}}$	
2750. 602	3	36344. 95	0. 19	$a\ ^4P_{2\frac{1}{2}}-63546\ ^3S_{1\frac{1}{2}}$	
2752. 259	3	36323. 07	-0. 04	$a\ ^4D_{0\frac{1}{2}}-w\ ^4D_{0\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—e	Term designation	Zeeman type
Å Air		K	K		
2752. 322	7	36322. 24	-0. 04	$a\ ^4P_{2\frac{1}{2}}-63523_{\frac{3}{2}\frac{1}{2}}$	
2752. 635	3	36318. 10	-0. 11	$b\ ^4D_{2\frac{1}{2}}-v\ ^2G_{\frac{3}{2}\frac{1}{2}}$	
2753. 851	3	36302. 07	0. 08	$a\ ^4P_{0\frac{1}{2}}-63583_{\frac{3}{2}\frac{1}{2},\ \frac{1}{2}}$	
2753. 995	3Hw	36300. 18	-0. 26	$b\ ^4D_{3\frac{1}{2}}-66654_{\frac{3}{2}\frac{1}{2}}$	
2755. 777	2	36276. 70	-0. 01	$b\ ^4D_{3\frac{1}{2}}-v\ ^2G_{4\frac{1}{2}}$	
2755. 839	2	36275. 88	0. 06	$a\ ^4P_{1\frac{1}{2}}-63523_{\frac{3}{2}\frac{1}{2}}$	
2756. 267	4	36270. 25	0. 00	$a\ ^4D_{1\frac{1}{2}}-w\ ^4D_{1\frac{1}{2}}$	
2758. 950	4	36234. 98	{ -0. 06 -0. 13	$b\ ^4D_{2\frac{1}{2}}-66654_{\frac{3}{2}\frac{1}{2}}$ $a\ ^4D_{2\frac{1}{2}}-x\ ^4G_{\frac{3}{2}\frac{1}{2}}$	
2760. 920	100hl	36209. 13	0. 00	$a\ ^6D_{4\frac{1}{2}}-l\ ^6P_{3\frac{1}{2}}$	
2761. 350	4	36203. 50	0. 03	$a\ ^4G_{5\frac{1}{2}}-w\ ^4G_{5\frac{1}{2}}$	
2761. 797	3	36197. 64	0. 04	$a\ ^4G_{3\frac{1}{2}}-w\ ^4G_{4\frac{1}{2}}$	
2761. 985	2h	36195. 17	0. 00	$a\ ^4G_{4\frac{1}{2}}-w\ ^4G_{3\frac{1}{2}}$	
2762. 853	3h	36183. 80	0. 02	$a\ ^4G_{4\frac{1}{2}}-w\ ^4G_{5\frac{1}{2}}$	
2763. 665	3	36173. 17	-0. 30	$a\ ^4D_{3\frac{1}{2}}-v\ ^4D_{3\frac{1}{2}}$	
2763. 87	3	36170. 4	-0. 5	$a\ ^4D_{0\frac{1}{2}}-w\ ^4D_{1\frac{1}{2}}$	
2763. 907	8h	36170. 00	-0. 02	$a\ ^4P_{2\frac{1}{2}}-63371_{\frac{3}{2}\frac{1}{2}}$	
2764. 027	1	36168. 44	0. 03	$b\ ^4D_{3\frac{1}{2}}-u\ ^4G_{4\frac{1}{2}}$	
2767. 450	10	36123. 70	0. 14	$a\ ^4P_{1\frac{1}{2}}-63371_{\frac{3}{2}\frac{1}{2}}$	
2769. 410	2	36098. 13	-0. 05	$a\ ^4D_{1\frac{1}{2}}-x\ ^4G_{\frac{3}{2}\frac{1}{2}}$	
2770. 242	3	36087. 30	0. 06	$a\ ^4P_{2\frac{1}{2}}-x\ ^2F_{3\frac{1}{2}}$	
2771. 430	30	36071. 83	0. 03	$a\ ^6D_{4\frac{1}{2}}-y\ ^4D_{3\frac{1}{2}}$	
2772. 032	2	36063. 99	-0. 06	$a\ ^4D_{3\frac{1}{2}}-x\ ^4F_{2\frac{1}{2}}$	
2773. 021	5	36051. 13	-0. 02	$a\ ^4D_{2\frac{1}{2}}-w\ ^4D_{3\frac{1}{2}}$	
2773. 659	10	36042. 84	-0. 04	$a\ ^4D_{3\frac{1}{2}}-w\ ^4D_{3\frac{1}{2}}$	
2774. 289	1	36034. 66	0. 00	$b\ ^4D_{2\frac{1}{2}}-u\ ^4G_{3\frac{1}{2}}$	
2776. 218	80hl	36009. 62	0. 04	$a\ ^6D_{3\frac{1}{2}}-t\ ^6P_{3\frac{1}{2}}$	
2777. 464	6	35993. 47	-0. 09	$a\ ^4D_{3\frac{1}{2}}-x\ ^4F_{3\frac{1}{2}}$	
2778. 544	60h	35979. 47	0. 05	$a\ ^6D_{3\frac{1}{2}}-t\ ^6P_{3\frac{1}{2}}$	
2779. 993	40	35960. 72	-0. 05	$a\ ^4D_{3\frac{1}{2}}-x\ ^4F_{4\frac{1}{2}}$	
2781. 733	1	35938. 23	0. 07	$a\ ^4P_{2\frac{1}{2}}-x\ ^2F_{2\frac{1}{2}}$	
2782. 259	1	35931. 44	-0. 16	$a\ ^4D_{2\frac{1}{2}}-v\ ^4D_{3\frac{1}{2}}$	
2782. 711	50H	35925. 60	0. 00	$a\ ^6D_{4\frac{1}{2}}-w\ ^6F_{5\frac{1}{2}}$	
2783. 080	10	35920. 84	-0. 10	$a\ ^4D_{2\frac{1}{2}}-v\ ^4D_{3\frac{1}{2}}$	
2785. 334	1	35891. 77	0. 07	$a\ ^4P_{1\frac{1}{2}}-x\ ^2F_{2\frac{1}{2}}$	
2786. 185	3	35880. 81	-0. 02	$a\ ^4D_{1\frac{1}{2}}-w\ ^4D_{2\frac{1}{2}}$	
2786. 266	3	35879. 77	0. 03	$a\ ^4P_{2\frac{1}{2}}-y\ ^2D_{3\frac{1}{2}}$	
2787. 264	2	35866. 93	-0. 02	$a\ ^4D_{2\frac{1}{2}}-x\ ^4F_{1\frac{1}{2}}$	
2787. 813	15h	35859. 86	0. 01	$a\ ^6D_{2\frac{1}{2}}-t\ ^6P_{1\frac{1}{2}}$	
2788. 682	3	35848. 68	-0. 09	$a\ ^4D_{1\frac{1}{2}}-u\ ^4P_{0\frac{1}{2}}$	
2789. 192	25	35842. 13	0. 04	$a\ ^6D_{3\frac{1}{2}}-y\ ^4D_{\frac{5}{2}\frac{1}{2}}$	6
2789. 355	15hw	35840. 03	-0. 03	$a\ ^6D_{2\frac{1}{2}}-t\ ^6P_{2\frac{1}{2}}$	
2789. 731	3	35835. 20	-0. 05	$a\ ^4D_{2\frac{1}{2}}-u\ ^4P_{1\frac{1}{2}}$	
2790. 353	30	35827. 21	0. 00	$a\ ^6D_{3\frac{1}{2}}-y\ ^4D_{3\frac{1}{2}}$	
2790. 925	4	35819. 87	-0. 06	$a\ ^4D_{3\frac{1}{2}}-u\ ^4P_{2\frac{1}{2}}$	
2791. 085	20	35817. 82	0. 01	$a\ ^6D_{3\frac{1}{2}}-x\ ^6D_{3\frac{1}{2}}$	
2791. 584	4	35811. 42	-0. 10	$a\ ^4D_{2\frac{1}{2}}-x\ ^4F_{2\frac{1}{2}}$	
2791. 707	2h	35809. 84	-0. 06	$a\ ^6D_{2\frac{1}{2}}-t\ ^6P_{3\frac{1}{2}}$	
2793. 24	6h	35790. 2	-0. 2	$a\ ^4D_{2\frac{1}{2}}-w\ ^4D_{3\frac{1}{2}}$	
2794. 817	10000R	35769. 99	0. 02	$a\ ^6S_{2\frac{1}{2}}-y\ ^6P_{3\frac{1}{2}}$	4
2796. 938	5	35742. 88	-0. 01	$a\ ^6D_{1\frac{1}{2}}-t\ ^6P_{1\frac{1}{2}}$	
2797. 194	3	35740. 88	-0. 15	$a\ ^4D_{2\frac{1}{2}}-x\ ^4F_{3\frac{1}{2}}$	
2798. 270	8000R	35725. 86	0. 01	$a\ ^6S_{2\frac{1}{2}}-y\ ^6P_{3\frac{1}{2}}$	6
2799. 841	50	35705. 81	-0. 01	$a\ ^6D_{4\frac{1}{2}}-x\ ^6D_{4\frac{1}{2}}$	6, 7b
2800. 63	6H	35695. 75	0. 00	$a\ ^6D_{3\frac{1}{2}}-w\ ^6F_{3\frac{1}{2}}$	
2801. 084	6000R	35689. 97	-0. 01	$a\ ^6S_{2\frac{1}{2}}-y\ ^6P_{1\frac{1}{2}}$	4

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—e	Term designation	Zeeman type
Å Air		<i>K</i>	<i>K</i>		
2802. 168	10	35676. 16	-0. 01	<i>a</i> $^4G_{2\frac{1}{2}} - x$ $^4H_{3\frac{1}{2}}$	
2802. 399	5	35673. 22	-0. 01	<i>a</i> $^4G_{3\frac{1}{2}} - w$ $^4F_{4\frac{1}{2}}$	
2802. 454	10	35672. 51	-0. 06	<i>a</i> $^6D_{2\frac{1}{2}} - y$ $^4D_{3\frac{1}{2}}$	
2802. 619	3	35670. 42	-0. 03	<i>a</i> $^4G_{4\frac{1}{2}} - x$ $^4H_{4\frac{1}{2}}$	
2802. 697	2	35669. 43	-0. 04	<i>a</i> $^4G_{3\frac{1}{2}} - x$ $^4H_{3\frac{1}{2}}$	
2802. 805	15	35668. 06	-0. 08	<i>a</i> $^4G_{3\frac{1}{2}} - x$ $^4H_{3\frac{1}{2}}$	
2803. 623	10	35657. 65	-0. 04	<i>a</i> $^6D_{2\frac{1}{2}} - y$ $^4D_{2\frac{1}{2}}$	
2803. 946	2	35653. 54	0. 00	<i>a</i> $^4G_{1\frac{1}{2}} - w$ $^4F_{4\frac{1}{2}}$	
2804. 095	20	35651. 64	-0. 03	<i>a</i> $^6D_{2\frac{1}{2}} - y$ $^4D_{1\frac{1}{2}}$	
2804. 216	2	35649. 98	0. 05	<i>a</i> $^4P_{2\frac{1}{2}} - w$ $^6D_{3\frac{1}{2}}$	
2804. 363	15	35648. 24	-0. 06	<i>a</i> $^4G_{4\frac{1}{2}} - x$ $^4H_{5\frac{1}{2}}$	
2804. 929	6	35641. 05	-0. 15	<i>a</i> $^4D_{1\frac{1}{2}} - x$ $^4F_{2\frac{1}{2}}$	
2806. 136	30	35625. 72	-0. 02	<i>a</i> $^4G_{3\frac{1}{2}} - x$ $^4H_{6\frac{1}{2}}$	
2806. 794	10	35617. 37	0. 00	<i>a</i> $^4G_{4\frac{1}{2}} - w$ $^4F_{3\frac{1}{2}}$	
2806. 977	4	35615. 04	-0. 02	<i>a</i> $^4G_{3\frac{1}{2}} - w$ $^4F_{3\frac{1}{2}}$	
2808. 015	20	35601. 88	0. 01	<i>a</i> $^6D_{3\frac{1}{2}} - x$ $^6D_{2\frac{1}{2}}$	
2808. 385	8	35597. 19	-0. 09	<i>a</i> $^4D_{0\frac{1}{2}} - x$ $^4F_{1\frac{1}{2}}$	
2809. 103	25	35588. 09	-0. 01	<i>a</i> $^6D_{3\frac{1}{2}} - x$ $^6D_{3\frac{1}{2}}$	
2811. 337	4	35559. 81	0. 02	<i>a</i> $^4P_{2\frac{1}{2}} - w$ $^6D_{2\frac{1}{2}}$	
2812. 090	1	35550. 29	0. 13	<i>b</i> $^4D_{0\frac{1}{2}} - w$ $^2D_{1\frac{1}{2}}$	
2812. 840	20	35540. 82	0. 09	<i>a</i> $^6D_{1\frac{1}{2}} - y$ $^4D_{3\frac{1}{2}}$	
2812. 933	2	35539. 64	0. 01	<i>a</i> $^4P_{1\frac{1}{2}} - w$ $^6D_{1\frac{1}{2}}$	
2813. 489	20	35532. 61	{ -0. 23 0. 00	<i>a</i> $^6D_{1\frac{1}{2}} - y$ $^4D_{0\frac{1}{2}}$ <i>a</i> $^4G_{3\frac{1}{2}} - w$ $^4F_{2\frac{1}{2}}$	
2813. 989	12H	35526. 30	0. 00	<i>a</i> $^6D_{2\frac{1}{2}} - w$ $^6F_{3\frac{1}{2}}$	
2814. 462	2	35520. 33	0. 17	<i>a</i> $^4P_{1\frac{1}{2}} - w$ $^6D_{0\frac{1}{2}}$	
2815. 018	8	35513. 32	-0. 01	<i>a</i> $^4P_{1\frac{1}{2}} - w$ $^6D_{2\frac{1}{2}}$	
2815. 609	8h	35505. 86	0. 08	<i>a</i> $^4P_{0\frac{1}{2}} - w$ $^6D_{1\frac{1}{2}}$	
2817. 164	5h	35486. 27	-0. 04	<i>a</i> $^4P_{0\frac{1}{2}} - w$ $^6D_{0\frac{1}{2}}$	
2817. 667	10	35479. 93	0. 10	<i>a</i> $^4G_{2\frac{1}{2}} - w$ $^4F_{1\frac{1}{2}}$	
2817. 969	30l	35476. 13	0. 02	<i>a</i> $^6D_{3\frac{1}{2}} - x$ $^6D_{3\frac{1}{2}}$	
2818. 770	20	35466. 05	0. 01	<i>a</i> $^6D_{0\frac{1}{2}} - y$ $^4D_{1\frac{1}{2}}$	
2818. 919	10	35464. 17	0. 00	<i>a</i> $^6D_{0\frac{1}{2}} - y$ $^4D_{0\frac{1}{2}}$	
2819. 326	4	35458. 42	0. 04	<i>a</i> $^4G_{2\frac{1}{2}} - z$ $^2G_{3\frac{1}{2}}$	
2819. 727	4	35454. 01	0. 02	<i>a</i> $^4G_{4\frac{1}{2}} - z$ $^2G_{3\frac{1}{2}}$	
2821. 452	20	35432. 34	-0. 01	<i>a</i> $^6D_{2\frac{1}{2}} - x$ $^6D_{2\frac{1}{2}, 1\frac{1}{2}}$	
2822. 275	2h	35422. 00	0. 00	<i>a</i> $^4H_{6\frac{1}{2}} - x$ $^2I_{8\frac{1}{2}}$	
2822. 549	30	35418. 57	-0. 01	<i>a</i> $^6D_{2\frac{1}{2}} - x$ $^6D_{3\frac{1}{2}}$	
2823. 268	5H	35409. 55	0. 00	<i>a</i> $^6D_{1\frac{1}{2}} - w$ $^6F_{3\frac{1}{2}}$	
2823. 813	1	35402. 71	-0. 04	<i>a</i> $^4G_{5\frac{1}{2}} - z$ $^2G_{4\frac{1}{2}}$	
2825. 552	2	35380. 86	0. 11	<i>a</i> $^4G_{3\frac{1}{2}} - z$ $^2G_{4\frac{1}{2}}$	
2828. 762	6H	35340. 78	0. 00	<i>a</i> $^6D_{0\frac{1}{2}} - w$ $^6F_{1\frac{1}{2}}$	
2830. 793	20	35315. 42	0. 03	<i>a</i> $^6D_{1\frac{1}{2}} - x$ $^6D_{2\frac{1}{2}, 1\frac{1}{2}}$	
2833. 171	3h	35285. 78	-0. 04	<i>a</i> $^4P_{2\frac{1}{2}} - v$ $^4F_{2\frac{1}{2}}$	
2836. 310	20	35246. 74	0. 02	<i>a</i> $^6D_{0\frac{1}{2}} - x$ $^6D_{1\frac{1}{2}}$	
2836. 898	4h	35239. 43	0. 07	<i>a</i> $^4P_{1\frac{1}{2}} - v$ $^4F_{2\frac{1}{2}}$	
2839. 997	15	35200. 98	0. 03	<i>a</i> $^6D_{4\frac{1}{2}} - u$ $^6P_{3\frac{1}{2}}$	
2840. 983	1	35188. 76	0. 10	<i>a</i> $^4P_{2\frac{1}{2}} - v$ $^4F_{1\frac{1}{2}}$	
2844. 764	2	35141. 97	-0. 23	<i>a</i> $^4P_{1\frac{1}{2}} - v$ $^4F_{1\frac{1}{2}}$	
2858. 655	30	34971. 24	0. 00	<i>a</i> $^6D_{3\frac{1}{2}} - u$ $^6P_{3\frac{1}{2}}$	
2863. 827	2h	34908. 09	0. 02	<i>b</i> $^4D_{3\frac{1}{2}} - w$ $^2G_{4\frac{1}{2}}$	
2866. 646	2H	34873. 76	0. 28	<i>a</i> $^4P_{2\frac{1}{2}} - y$ $^2F_{3\frac{1}{2}}$ ?	
2868. 880	7	34846. 60	-0. 05	<i>a</i> $^6D_{3\frac{1}{2}} - u$ $^6P_{2\frac{1}{2}}$	
2870. 464	1h	34827. 37	0. 35	<i>a</i> $^4P_{1\frac{1}{2}} - y$ $^2F_{2\frac{1}{2}}$ ?	
2871. 583	1h	34813. 78	0. 21	<i>a</i> $^4D_{3\frac{1}{2}} - y$ $^4G_{4\frac{1}{2}}$	
2872. 583	30	34801. 69	-0. 03	<i>a</i> $^6D_{2\frac{1}{2}} - u$ $^6P_{3\frac{1}{2}}$	

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TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—e	Term designation	Zeeman type
Å		K	K		
Air					
2880. 270	1 $h$	34708. 81	0. 08	$a\ ^4G_{3\frac{1}{2}}—w\ ^4D_{1\frac{1}{2}}$	
2882. 899	20	34677. 16	0. 03	$a\ ^6D_{3\frac{1}{2}}—u\ ^6P_{2\frac{1}{2}}$	
2890. 388	1 $h$	34587. 31	-0. 18	$a\ ^4D_{2\frac{1}{2}}—y\ ^4G_{3\frac{1}{2}}$	
2891. 945	2 $h$	34568. 69	0. 08	$b\ ^4D_{2\frac{1}{2}}—w\ ^2F_{3\frac{1}{2}}$	
2892. 388	2	34563. 39	-0. 09	$a\ ^6D_{2\frac{1}{2}}—u\ ^6P_{1\frac{1}{2}}$	
2892. 493	5	34562. 13	-0. 01	$a\ ^4G_{5\frac{1}{2}}—z\ ^2I_{5\frac{1}{2}}$	
2892. 657	20	34560. 19	0. 02	$a\ ^6D_{1\frac{1}{2}}—u\ ^6P_{2\frac{1}{2}}$	5
2894. 625	10	34536. 69	0. 03	$a\ ^4G_{3\frac{1}{2}}—x\ ^4G_{2\frac{1}{2}}$	
2895. 188	8	34529. 97	0. 01	$a\ ^4G_{3\frac{1}{2}}—x\ ^4G_{2\frac{1}{2}}$	
2897. 428	5	34503. 28	0. 01	$a\ ^4G_{2\frac{1}{2}}—x\ ^4G_{3\frac{1}{2}}$	
2897. 651	1	34500. 63	-0. 09	$b\ ^4D_{3\frac{1}{2}}—v\ ^4H_{3\frac{1}{2}}$	
2897. 797	15	34498. 89	0. 01	$a\ ^4G_{4\frac{1}{2}}—x\ ^4G_{3\frac{1}{2}}$	
2897. 990	10	34496. 59	0. 02	$a\ ^4G_{3\frac{1}{2}}—x\ ^4G_{3\frac{1}{2}}$	
2900. 545	20	34466. 20	0. 00	$a\ ^4G_{5\frac{1}{2}}—x\ ^4G_{4\frac{1}{2}}$	5
2902. 203	25	34446. 51	{ -0. 01 0. 00	$a\ ^6D_{1\frac{1}{2}}—u\ ^6P_{1\frac{1}{2}}$ $a\ ^4G_{4\frac{1}{2}}—x\ ^4G_{4\frac{1}{2}}$	
2902. 399	5	34444. 19	-0. 01	$a\ ^4G_{3\frac{1}{2}}—x\ ^4G_{4\frac{1}{2}}$	
2905. 825	1 $h$	34403. 58	-0. 02	$b\ ^4D_{2\frac{1}{2}}—w\ ^2F_{2\frac{1}{2}}$	
2906. 340	4 $h$	34397. 49	-0. 01	$b\ ^4D_{1\frac{1}{2}}—w\ ^3F_{2\frac{1}{2}}$	
2907. 214	40	34387. 15	-0. 01	$a\ ^4G_{3\frac{1}{2}}—x\ ^4G_{3\frac{1}{2}}$	6
2907. 993	15	34377. 93	0. 08	$a\ ^6D_{0\frac{1}{2}}—u\ ^6P_{1\frac{1}{2}}$	
2908. 878	10	34367. 47	0. 00	$a\ ^4G_{4\frac{1}{2}}—x\ ^4G_{5\frac{1}{2}}$	
2909. 630	1	34358. 59	-0. 14	$b\ ^4D_{3\frac{1}{2}}—u\ ^4D_{2\frac{1}{2}}$	
2910. 242	3	34351. 37	-0. 01	$a\ ^4G_{3\frac{1}{2}}—z\ ^2I_{6\frac{1}{2}}$	
2911. 839	1 $h$	34332. 53	-0. 02	$z\ ^8P_{2\frac{1}{2}}—f\ ^6D_{1\frac{1}{2}}$	
2912. 000	2 $h$	34330. 63	-0. 13	$z\ ^8P_{2\frac{1}{2}}—f\ ^6D_{2\frac{1}{2}}$	
2912. 226	3 $h$	34327. 97	0. 02	$z\ ^8P_{3\frac{1}{2}}—f\ ^6D_{3\frac{1}{2}}$	
2913. 518	1	34312. 74	0. 13	$a\ ^4G_{3\frac{1}{2}}—w\ ^4D_{2\frac{1}{2}}$	
2914. 599	600hw	34300. 02	0. 00	$z\ ^8P_{3\frac{1}{2}}—f\ ^8D$	
2916. 375	1 $h$	34279. 13	0. 07	$a\ ^4P_{2\frac{1}{2}}—w\ ^4G_{3\frac{1}{2}}$	
2917. 637	1	34264. 31	-0. 03	$b\ ^4D_{2\frac{1}{2}}—u\ ^4D_{1\frac{1}{2}}$	
2919. 122	8	34246. 88	0. 03	$a\ ^4G_{2\frac{1}{2}}—v\ ^4D_{1\frac{1}{2}}$	
2920. 458	8	34231. 21	-0. 02	$b\ ^4D_{3\frac{1}{2}}—x\ ^2G_{4\frac{1}{2}}$	4
2920. 599	5	34229. 56	-0. 03	$b\ ^4D_{2\frac{1}{2}}—x\ ^2G_{3\frac{1}{2}}$	
2921. 112	1	34223. 55	0. 32	$a\ ^4P_{1\frac{1}{2}}—w\ ^4G_{2\frac{1}{2}}$	
2923. 145	2	34199. 75	-0. 01	$a\ ^4G_{-1\frac{1}{2}}—v\ ^4D_{3\frac{1}{2}}$	
2923. 229	2 $h$	34198. 76	-0. 01	$z\ ^8P_{3\frac{1}{2}}—f\ ^8D_{3\frac{1}{2}}$	
2923. 577	3 $h$	34194. 69	-0. 06	$z\ ^8P_{3\frac{1}{2}}—f\ ^6D_{4\frac{1}{2}}$	
2923. 715	10	34193. 08	0. 02	$a\ ^4G_{3\frac{1}{2}}—v\ ^4D_{3\frac{1}{2}}$	
2924. 430	10	34184. 72	0. 01	$a\ ^4G_{4\frac{1}{2}}—v\ ^4D_{3\frac{1}{2}}$	
2924. 629	2	34182. 39	-0. 01	$a\ ^4G_{3\frac{1}{2}}—v\ ^4D_{3\frac{1}{2}}$	
2925. 58	500hw	34171. 3	-0. 2	$z\ ^8P_{3\frac{1}{2}}—f\ ^8D_{4\frac{1}{2}}$	P-B
2928. 678	40	34135. 14	0. 03	$a\ ^4G_{2\frac{1}{2}}—x\ ^4F_{1\frac{1}{2}}$	
2930. 245	20	34116. 89	0. 00	$a\ ^6D_{4\frac{1}{2}}—x\ ^6F_{3\frac{1}{2}}$	4
2933. 442	3	34079. 71	0. 03	$a\ ^4G_{2\frac{1}{2}}—x\ ^4F_{3\frac{1}{2}}$	
2934. 020	30	34072. 99	0. 01	$a\ ^4G_{3\frac{1}{2}}—x\ ^4F_{2\frac{1}{2}}$	
2935. 643	15	34054. 15	0. 03	$a\ ^4G_{4\frac{1}{2}}—w\ ^4D_{3\frac{1}{2}}$	4
2935. 844	3	34051. 82	0. 01	$a\ ^4G_{3\frac{1}{2}}—w\ ^4D_{3\frac{1}{2}}$	
2936. 156	10	34048. 20	0. 00	$a\ ^6D_{4\frac{1}{2}}—x\ ^6F_{4\frac{1}{2}}$	6
2938. 496	2 $h$	34021. 09	0. 07	$z\ ^8P_{4\frac{1}{2}}—f\ ^6D_{4\frac{1}{2}}$	
2939. 904	20	34004. 80	0. 00	$a\ ^4G_{4\frac{1}{2}}—x\ ^4F_{3\frac{1}{2}}$	
2940. 331	400hw	33999. 86	0. 00	$z\ ^8P_{4\frac{1}{2}}—f\ ^8D_{5\frac{1}{2}}$	
2940. 483	2	33997. 91	0. 2	$z\ ^8P_{4\frac{1}{2}}—f\ ^8D_{4\frac{1}{2}}$	
2941. 038	40	33991. 69	-0. 01	$a\ ^4G_{5\frac{1}{2}}—x\ ^4F_{4\frac{1}{2}}$	4
2941. 681	5	33984. 26	-0. 04	$a\ ^4D_{1\frac{1}{2}}—x\ ^4P_{0\frac{1}{2}}$	
2942. 740	8	33972. 03	0. 02	$a\ ^4G_{4\frac{1}{2}}—x\ ^4F_{3\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o-c$	Term designation	Zeeman type
Å Air		<i>K</i>	<i>K</i>		
2943. 550	1	33962. 68	0. 02	<i>a</i> $^6D_{4\frac{1}{2}} - x$ $^6F_{3\frac{1}{2}}$	
2947. 634	3	33915. 63	0. 00	<i>a</i> $^6D_{0\frac{1}{2}} - x$ $^4P_{0\frac{1}{2}}$	
2950. 979	3	33877. 19	0. 02	<i>a</i> $^6D_{1\frac{1}{2}} - x$ $^4P_{1\frac{1}{2}}$	
2953. 008	10	33853. 91	0. 02	<i>a</i> $^6D_{2\frac{1}{2}} - x$ $^4P_{2\frac{1}{2}}$	
2956. 101	20	33818. 49	0. 00	<i>a</i> $^6D_{3\frac{1}{2}} - x$ $^6F_{4\frac{1}{2}}$	4
2956. 971	10	33808. 54	0. 04	<i>a</i> $^6D_{0\frac{1}{2}} - x$ $^4P_{0\frac{1}{2}}$	
2963. 250	10	33736. 90	-0. 03	<i>a</i> $^6D_{1\frac{1}{2}} - x$ $^4P_{2\frac{1}{2}}$	
2963. 606	20	33732. 85	-0. 10	<i>a</i> $^6D_{3\frac{1}{2}} - x$ $^6F_{3\frac{1}{2}}$	6
2966. 374	1	33701. 38	0. 12	<i>a</i> $^4P_{2\frac{1}{2}} - w$ $^4F_{3\frac{1}{2}}$	
2970. 956	4	33649. 40	-0. 02	<i>a</i> $^6D_{3\frac{1}{2}} - x$ $^6F_{3\frac{1}{2}}$	
2974. 089	20	33613. 96	0. 00	<i>a</i> $^4H_{6\frac{1}{2}} - t$ $^4G_{5\frac{1}{2}}$	4
2976. 588	1	33585. 74	-0. 01	<i>a</i> $^4G_{5\frac{1}{2}} - z$ $^4I_{5\frac{1}{2}}$	
2976. 987	1	33581. 23	0. 00	<i>a</i> $^4G_{4\frac{1}{2}} - z$ $^4I_{4\frac{1}{2}}$	
2977. 190	1	33578. 95	0. 03	<i>a</i> $^4G_{3\frac{1}{2}} - z$ $^4I_{3\frac{1}{2}}$	
2977. 303	3	33577. 67	0. 02	<i>a</i> $^4G_{5\frac{1}{2}} - z$ $^4I_{6\frac{1}{2}}$	
2977. 755	1	33572. 57	0. 22	<i>a</i> $^4P_{1\frac{1}{2}} - w$ $^4F_{2\frac{1}{2}}$	
2977. 922	1	33570. 69	0. 3	<i>a</i> $^4D_{3\frac{1}{2}} - u$ $^6F^o$	
2978. 114	8h	33568. 53	-0. 12	<i>a</i> $^4H_{5\frac{1}{2}} - t$ $^4G_{4\frac{1}{2}}$	
2978. 333	2	33566. 06	0. 00	<i>a</i> $^4G_{4\frac{1}{2}} - z$ $^4I_{3\frac{1}{2}}$	
2978. 566	15	33563. 44	0. 01	<i>a</i> $^6D_{2\frac{1}{2}} - x$ $^6F_{3\frac{1}{2}}$	
2979. 994	8h	33547. 35	-0. 11	<i>a</i> $^4H_{4\frac{1}{2}} - t$ $^4G_{3\frac{1}{2}}$	
2980. 493	2h	33541. 74	0. 14	<i>a</i> $^4H_{3\frac{1}{2}} - t$ $^4G_{2\frac{1}{2}}$	
2984. 002	2	33502. 29	-0. 03	<i>a</i> $^4H_{5\frac{1}{2}} - t$ $^4G_{5\frac{1}{2}}$	
2985. 992	20	33479. 97	0. 07	<i>a</i> $^6D_{2\frac{1}{2}} - x$ $^6F_{2\frac{1}{2}}$	6
2986. 407	2h	33475. 32	0. 05	<i>a</i> $^4H_{4\frac{1}{2}} - t$ $^4G_{3\frac{1}{2}}$	
2987. 052	1h	33468. 10	0. 01	<i>a</i> $^4H_{3\frac{1}{2}} - t$ $^4G_{3\frac{1}{2}}$	
2990. 135	1	33433. 58	0. 00	<i>b</i> $^4D_{0\frac{1}{2}} - x$ $^2D_{1\frac{1}{2}}$	
2991. 387	1	33419. 59	-0. 02	<i>b</i> $^4D_{1\frac{1}{2}} - x$ $^2D_{1\frac{1}{2}}$	
2992. 109	5	33411. 53	0. 00	<i>a</i> $^6D_{2\frac{1}{2}} - x$ $^6F_{1\frac{1}{2}}$	
2996. 183	2	33366. 10	0. 08	<i>a</i> $^4H_{6\frac{1}{2}} - w$ $^2H_{5\frac{1}{2}}$	
2996. 470	10	33362. 90	-0. 04	<i>a</i> $^6D_{1\frac{1}{2}} - x$ $^6F_{3\frac{1}{2}}$	4
2997. 826	6H	33347. 81	0. 07	<i>a</i> $^4F_{4\frac{1}{2}} - u$ $^2G_{4\frac{1}{2}}$	6, 7b
2998. 056	1	33345. 25	-0. 04	<i>b</i> $^4D_{2\frac{1}{2}} - x$ $^2D_{2\frac{1}{2}}$	
2998. 600	1h	33339. 20	0. 01	<i>b</i> $^4D_{1\frac{1}{2}} - x$ $^2D_{2\frac{1}{2}}$	
3002. 378	2hw	33297. 25	0. 03	<i>a</i> $^4F_{3\frac{1}{2}} - u$ $^2G_{3\frac{1}{2}}$	
3002. 616	20	33294. 61	0. 04	<i>a</i> $^6D_{1\frac{1}{2}} - x$ $^6F_{1\frac{1}{2}}$	6
3003. 125	2	33288. 97	-0. 04	<i>a</i> $^6D_{4\frac{1}{2}} - y$ $^4F_{4\frac{1}{2}}$	
3006. 629	4	33250. 18	0. 02	<i>a</i> $^6D_{1\frac{1}{2}} - x$ $^6F_{0\frac{1}{2}}$	
3007. 102	7H	33244. 95	-0. 12	<i>a</i> $^4F_{3\frac{1}{2}} - u$ $^2G_{4\frac{1}{2}}$	
3007. 650	80	33238. 89	0. 03	<i>a</i> $^4G_{2\frac{1}{2}} - y$ $^4H_{3\frac{1}{2}}$	5
3008. 050	3	33234. 47	0. 00	<i>a</i> $^4G_{4\frac{1}{2}} - y$ $^4H_{3\frac{1}{2}}$	
3008. 258	40	33232. 17	0. 01	<i>a</i> $^4G_{3\frac{1}{2}} - y$ $^4H_{3\frac{1}{2}}$	
3008. 822	4	33225. 95	0. 05	<i>a</i> $^6D_{0\frac{1}{2}} - x$ $^6F_{1\frac{1}{2}}$	
3009. 378	5	33219. 80	0. 02	<i>a</i> $^4G_{5\frac{1}{2}} - y$ $^4H_{3\frac{1}{2}}$	5
3011. 165	50	33200. 09	0. 00	<i>a</i> $^4G_{4\frac{1}{2}} - y$ $^4H_{4\frac{1}{2}}$	
3011. 376	70	33197. 76	-0. 02	<i>a</i> $^4G_{3\frac{1}{2}} - y$ $^4H_{4\frac{1}{2}}$	
3012. 854	8	33181. 48	-0. 01	<i>a</i> $^6D_{0\frac{1}{2}} - x$ $^6F_{0\frac{1}{2}}$	6
3013. 933	1h	33169. 60	-0. 01	<i>b</i> $^4D_{3\frac{1}{2}} - 63523^3_{2\frac{1}{2}}$	
3014. 666	70	33161. 54	-0. 02	<i>a</i> $^4G_{5\frac{1}{2}} - y$ $^4H_{3\frac{1}{2}}$	6
3015. 183	1	33155. 85	0. 04	<i>b</i> $^4P_{2\frac{1}{2}} - 66981^3_{3\frac{1}{2}}$	
3015. 915	2	33147. 80	{ 0. 16	<i>a</i> $^4P_{1\frac{1}{2}} - z$ $^2D_{1\frac{1}{2}}$	
			0. 2	<i>a</i> $^4D_{1\frac{1}{2}} - u$ $^6F^o$	
3016. 454	100	33141. 88	0. 01	<i>a</i> $^4G_{4\frac{1}{2}} - y$ $^4H_{5\frac{1}{2}}$	5
3019. 018	2	33113. 74	-0. 05	<i>a</i> $^4P_{0\frac{1}{2}} - z$ $^2D_{1\frac{1}{2}}$	
3021. 673	2h	33084. 64	0. 11	<i>b</i> $^4P_{2\frac{1}{2}} - 66910^3_{2\frac{1}{2}}$	
3022. 743	120	33072. 93	0. 00	<i>a</i> $^4G_{5\frac{1}{2}} - y$ $^4H_{6\frac{1}{2}}$	4

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å		K	K		
Air					
3023. 993	1h	33059. 26	−0. 04	$a \ ^4D_{3\frac{1}{2}} - y \ ^4F_{3\frac{1}{2}}$	
3027. 836	1h	33017. 30	−0. 05	$b \ ^4D_{3\frac{1}{2}} - 63371 \ ^2D_{3\frac{1}{2}}$	
3033. 324	1h	32957. 57	0. 01	$b \ ^4P_{2\frac{1}{2}} - u \ ^4F_{3\frac{1}{2}}$	
3034. 408	1h	32945. 80	−0. 05	$b \ ^4D_{1\frac{1}{2}} - 63371 \ ^2D_{3\frac{1}{2}}$	
3038. 616	3	32900. 17	{ −0. 07 0. 06	$b \ ^4D_{2\frac{1}{2}} - 63319 \ ^3D_{2\frac{1}{2}}$ $a \ ^4P_{2\frac{1}{2}} - z \ ^2D_{2\frac{1}{2}}$	
3039. 169	1	32849. 19	0. 21	$a \ ^4P_{1\frac{1}{2}} - w \ ^4D_{0\frac{1}{2}}$	
3040. 600	100	32878. 71	0. 02	$a \ ^4G_{3\frac{1}{2}} - y \ ^4G_{2\frac{1}{2}}$	P—B
3041. 220	30	32872. 00	0. 01	$a \ ^4G_{3\frac{1}{2}} - y \ ^4G_{2\frac{1}{2}}$	
3041. 483	1	32869. 16	−0. 01	$b \ ^4D_{2\frac{1}{2}} - x \ ^2F_{3\frac{1}{2}}$	P—B
3042. 319	3	32860. 13	0. 00	$a \ ^4P_{0\frac{1}{2}} - w \ ^4D_{0\frac{1}{2}}$	
3042. 734	30	32855. 65	0. 00	$a \ ^4G_{2\frac{1}{2}} - y \ ^4G_{3\frac{1}{2}}$	
3042. 905	2	32853. 80	0. 15	$a \ ^4P_{1\frac{1}{2}} - z \ ^2D_{2\frac{1}{2}}$	P—B
3043. 139	15	32851. 28	0. 02	$a \ ^4G_{1\frac{1}{2}} - y \ ^4G_{3\frac{1}{2}}$	
3043. 355	60	32848. 95	0. 00	$a \ ^4G_{3\frac{1}{2}} - y \ ^4G_{3\frac{1}{2}}$	P—B
3043. 768	20	32844. 49	−0. 01	$a \ ^4G_{5\frac{1}{2}} - y \ ^4G_{4\frac{1}{2}}$	
3044. 566	500r	32835. 88	0. 09	$a \ ^6D_{4\frac{1}{2}} - v \ ^6P_{3\frac{1}{2}}$	4
3045. 590	80	32824. 84	0. 03	$a \ ^4G_{4\frac{1}{2}} - y \ ^4G_{4\frac{1}{2}}$	P—B
3045. 804	30	32822. 53	0. 03	$a \ ^4G_{3\frac{1}{2}} - y \ ^4G_{4\frac{1}{2}}$	P—B
3046. 588	4	32814. 09	−0. 05	$a \ ^4F_{4\frac{1}{2}} - t \ ^4G_{5\frac{1}{2}}$	
3047. 032	150	32809. 31	−0. 01	$a \ ^4G_{5\frac{1}{2}} - y \ ^4G_{5\frac{1}{2}}$	6, 7b
3048. 860	40	32789. 64	0. 01	$a \ ^4G_{4\frac{1}{2}} - y \ ^4G_{5\frac{1}{2}}$	P—B
3049. 967	2h	32777. 73	−0. 07	$a \ ^4F_{3\frac{1}{2}} - t \ ^4G_{4\frac{1}{2}}$	
3050. 100	3h	32776. 31	−0. 07	$a \ ^4F_{2\frac{1}{2}} - t \ ^4G_{3\frac{1}{2}}$	
3053. 296	2	32742. 00	0. 23	$a \ ^4P_{1\frac{1}{2}} - w \ ^4D_{1\frac{1}{2}}$	
3054. 362	400r	32730. 57	0. 04	$a \ ^6D_{3\frac{1}{2}} - v \ ^6P_{2\frac{1}{2}}$	4
3055. 915	2	32713. 94	−0. 05	$b \ ^4D_{1\frac{1}{2}} - x \ ^2F_{2\frac{1}{2}}$	
3056. 471	4	32707. 99	0. 07	$a \ ^4P_{0\frac{1}{2}} - w \ ^4D_{1\frac{1}{2}}$	
3056. 992	4	32702. 41	0. 04	$b \ ^4D_{0\frac{1}{2}} - y \ ^2D_{1\frac{1}{2}}$	
3057. 733	1	32694. 49	−0. 01	$b \ ^4D_{2\frac{1}{2}} - y \ ^2D_{1\frac{1}{2}}$	
3058. 305	2	32688. 38	−0. 02	$b \ ^4D_{1\frac{1}{2}} - y \ ^2D_{1\frac{1}{2}}$	
3059. 217	5Hw	32678. 63	−0. 09	$b \ ^4P_{2\frac{1}{2}} - 66504 \ ^1D_{2\frac{1}{2}}$	
3062. 120	200	32647. 65	0. 01	$a \ ^6D_{2\frac{1}{2}} - v \ ^6P_{1\frac{1}{2}}$	4
3064. 045	2h	32627. 14	0. 00	$a \ ^4D_{3\frac{1}{2}} - 55923 \ ^2D_{2\frac{1}{2}}$	
3066. 022	250	32606. 11	0. 03	$a \ ^6D_{3\frac{1}{2}} - v \ ^6P_{3\frac{1}{2}}$	6
3067. 858	1	32586. 59	−0. 06	$z \ ^6P_{3\frac{1}{2}} - e \ ^8P_{4\frac{1}{2}}$	
3070. 270	300	32560. 99	−0. 02	$a \ ^6D_{2\frac{1}{2}} - v \ ^6P_{2\frac{1}{2}}$	6
3073. 180	300	32530. 69	0. 01	$a \ ^6D_{1\frac{1}{2}} - v \ ^6P_{1\frac{1}{2}}$	6
3079. 635	200	32461. 98	−0. 03	$a \ ^6D_{0\frac{1}{2}} - v \ ^6P_{1\frac{1}{2}}$	4
3081. 340	100	32444. 02	−0. 03	$a \ ^6D_{1\frac{1}{2}} - v \ ^6P_{2\frac{1}{2}}$	5
3082. 060	40	32436. 44	−0. 12	$a \ ^6D_{2\frac{1}{2}} - v \ ^6P_{3\frac{1}{2}}$	5
3082. 246	2	32434. 48	−0. 24	$a \ ^4H_{6\frac{1}{2}} - u \ ^4G_{5\frac{1}{2}}$	
3082. 507	2Hw	32431. 74	−0. 12	$b \ ^4D_{2\frac{1}{2}} - w \ ^6D_{3\frac{1}{2}}$	
3082. 713	15	32429. 57	−0. 13	$a \ ^4H_{6\frac{1}{2}} - u \ ^4H_{5\frac{1}{2}}$	6, 7b
3084. 025	1h	32415. 77	−0. 13	$z \ ^6P_{3\frac{1}{2}} - e \ ^8P_{3\frac{1}{2}}$ ?	
3084. 879	2h	32406. 80	−0. 32	$b \ ^4D_{3\frac{1}{2}} - w \ ^6D_{2\frac{1}{2}}$	
3087. 378	1	32380. 57	0. 17	$a \ ^4H_{5\frac{1}{2}} - v \ ^2G_{4\frac{1}{2}}$	
3087. 791	3h	32376. 24	0. 35	$b \ ^4D_{0\frac{1}{2}} - w \ ^6D_{1\frac{1}{2}}$ ?	
3087. 944	2h	32374. 64	0. 03	$a \ ^4D_{2\frac{1}{2}} - 55923 \ ^2D_{2\frac{1}{2}}$	
3089. 686	1Hw	32356. 38	−0. 04	$b \ ^4D_{0\frac{1}{2}} - w \ ^6D_{0\frac{1}{2}}$	
3091. 098	3h	32341. 60	−0. 12	$b \ ^4D_{2\frac{1}{2}} - w \ ^6D_{2\frac{1}{2}}$	
3091. 673	4h	32335. 59	−0. 03	$b \ ^4D_{1\frac{1}{2}} - w \ ^6D_{2\frac{1}{2}}$	
3092. 549	7	32326. 43	0. 08	$a \ ^4P_{2\frac{1}{2}} - v \ ^4D_{1\frac{1}{2}}$	
3092. 872	10	32323. 05	−0. 03	$a \ ^4H_{5\frac{1}{2}} - u \ ^4G_{5\frac{1}{2}}$	
3093. 121	2	32320. 45	0. 16	$a \ ^4P_{1\frac{1}{2}} - u \ ^4P_{0\frac{1}{2}}$	
3093. 352	4	32318. 04	−0. 02	$a \ ^4H_{5\frac{1}{2}} - u \ ^4H_{6\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å Air		K	K		
3093. 467	1	32316. 84	0. 24	$b\ ^4D_{3\frac{1}{2}}—w\ ^6D_{4\frac{1}{2}}$	
3093. 689	2	32314. 52	−0. 03	$a\ ^4H_{3\frac{1}{2}}—v\ ^2G_{3\frac{1}{2}}$	
3094. 818	1	32302. 73	0. 01	$b\ ^4G_{5\frac{1}{2}}—v\ ^2H_{5\frac{1}{2}}$	
3095. 244	1	32298. 29	0. 01	$z\ ^6P_{2\frac{1}{2}}—e\ ^8P_{2\frac{1}{2}}$	
3096. 384	6	32286. 39	−0. 05	$a\ ^4P_{0\frac{1}{2}}—u\ ^4P_{0\frac{1}{2}}$	
3097. 010	20	32279. 87	{ −0. 02 0. 20	$a\ ^4P_{1\frac{1}{2}}—v\ ^4D_{1\frac{1}{2}}$ $a\ ^4H_{6\frac{1}{2}}—u\ ^4H_{5\frac{1}{2}}$	
3097. 063	30	32279. 31	0. 05	$a\ ^4P_{2\frac{1}{2}}—v\ ^4D_{2\frac{1}{2}}$	
3097. 758	5	32272. 07	−0. 03	$a\ ^4H_{5\frac{1}{2}}—u\ ^4G_{4\frac{1}{2}}$	
3098. 092	10	32268. 57	−0. 03	$a\ ^4P_{2\frac{1}{2}}—v\ ^4D_{3\frac{1}{2}}$	
3099. 301	1	32256. 01	−0. 26	$a\ ^4H_{4\frac{1}{2}}—66600\ ^3_{3\frac{1}{2}}$	
3100. 267	8	32245. 96	−0. 08	$a\ ^4P_{0\frac{1}{2}}—v\ ^4D_{1\frac{1}{2}}$	
3100. 310	10	32245. 51	0. 00	$a\ ^4P_{0\frac{1}{2}}—v\ ^4D_{0\frac{1}{2}}$	
3101. 529	30	32232. 84	0. 04	$a\ ^4P_{1\frac{1}{2}}—v\ ^4D_{2\frac{1}{2}}$	4
3101. 836	2	32229. 65	−0. 05	$a\ ^4H_{4\frac{1}{2}}—u\ ^4G_{3\frac{1}{2}}$	
3103. 280	1	32214. 65	0. 04	$a\ ^4P_{2\frac{1}{2}}—x\ ^4F_{1\frac{1}{2}}$	
3106. 336	2	32182. 96	0. 05	$a\ ^4P_{2\frac{1}{2}}—u\ ^4P_{1\frac{1}{2}}$	
3106. 748	10	32178. 69	−0. 03	$a\ ^4H_{4\frac{1}{2}}—u\ ^4G_{4\frac{1}{2}}$	6
3107. 776	20	32168. 05	{ −0. 10 0. 02	$a\ ^4P_{1\frac{1}{2}}—x\ ^4F_{1\frac{1}{2}}$ $a\ ^4H_{5\frac{1}{2}}—u\ ^4H_{5\frac{1}{2}}$	6
3108. 634	10	32159. 17	−0. 01	$a\ ^4P_{2\frac{1}{2}}—x\ ^4F_{2\frac{1}{2}}$	6
3109. 435	4H <sub>w</sub>	32150. 89	−0. 19	$b\ ^4D_{3\frac{1}{2}}—v\ ^4F_{3\frac{1}{2}}$	
3110. 681	50	32138. 01	0. 00	$a\ ^4P_{2\frac{1}{2}}—w\ ^4D_{5\frac{1}{2}}$	4
3111. 147	2	32133. 20	0. 05	$b\ ^4D_{3\frac{1}{2}}—v\ ^4F_{2\frac{1}{2}}$	
3113. 118	10	32112. 85	0. 13	$a\ ^4P_{1\frac{1}{2}}—x\ ^4F_{2\frac{1}{2}}$	4
3113. 362	4	32110. 33	−0. 04	$a\ ^4H_{4\frac{1}{2}}—u\ ^4G_{3\frac{1}{2}}$	5
3113. 800	15	32105. 81	−0. 07	$a\ ^4H_{5\frac{1}{2}}—u\ ^4H_{4\frac{1}{2}}$	5
3114. 115	3	32102. 57	−0. 03	$a\ ^4P_{0\frac{1}{2}}—u\ ^4P_{1\frac{1}{2}}$	
3114. 440	1	32099. 22	−0. 13	$a\ ^4H_{3\frac{1}{2}}—u\ ^4G_{4\frac{1}{2}}$	
3115. 462	40	32088. 69	0. 00	$a\ ^4P_{2\frac{1}{2}}—x\ ^4F_{3\frac{1}{2}}$	4
3115. 754	3H <sub>w</sub>	32085. 68	0. 00	$b\ ^4D_{2\frac{1}{2}}—v\ ^4F_{3\frac{1}{2}}$	
3116. 822	2	32074. 68	0. 03	$a\ ^4H_{4\frac{1}{2}}—u\ ^4H_{5\frac{1}{2}}$	
3117. 505	3H <sub>w</sub>	32067. 66	−0. 09	$b\ ^4D_{2\frac{1}{2}}—v\ ^4F_{2\frac{1}{2}}$	
3118. 099	8H <sub>w</sub>	32061. 55	−0. 10	$b\ ^4D_{1\frac{1}{2}}—v\ ^4F_{2\frac{1}{2}}$	
3120. 337	30h	32038. 56	−0. 05	$b\ ^4D_{3\frac{1}{2}}—v\ ^4F_{4\frac{1}{2}}$	4
3121. 072	6	32031. 02	0. 02	$a\ ^4H_{3\frac{1}{2}}—u\ ^4G_{3\frac{1}{2}}$	6
3121. 914	1hw	32022. 38	0. 3	$z\ ^6P_{1\frac{1}{2}}—h\ ^8D$	
3122. 880	10	32012. 47	−0. 03	$a\ ^4H_{4\frac{1}{2}}—u\ ^4H_{4\frac{1}{2}}$	6
3125. 013	8	31990. 62	0. 05	$a\ ^4H_{4\frac{1}{2}}—u\ ^4H_{3\frac{1}{2}}$	5
3126. 192	2	31978. 56	0. 10	$b\ ^4D_{0\frac{1}{2}}—v\ ^4F_{1\frac{1}{2}}$	
3126. 846	10	31971. 87	−0. 05	$a\ ^4H_{3\frac{1}{2}}—u\ ^4G_{2\frac{1}{2}}$	5
3129. 971	3	31939. 95	0. 02	$a\ ^4F_{3\frac{1}{2}}—66981\ ^3_{3\frac{1}{2}}$	
3130. 624	2	31933. 29	0. 16	$a\ ^4H_{3\frac{1}{2}}—u\ ^4H_{4\frac{1}{2}}$	
3132. 284	15h	31916. 36	0. 06	$a\ ^4F_{4\frac{1}{2}}—u\ ^4F_{4\frac{1}{2}}$	6, 7b
3132. 789	10	31911. 22	0. 02	$a\ ^4H_{3\frac{1}{2}}—u\ ^4H_{3\frac{1}{2}}$	6
3134. 922	4h	31889. 51	0. 01	$a\ ^4D_{3\frac{1}{2}}—x\ ^4D_{2\frac{1}{2}}$	
3135. 188	2	31886. 80	0. 06	$z\ ^6P_{1\frac{1}{2}}—i\ ^6D_{0\frac{1}{2}}$	7b?
3136. 958	10	31868. 82	0. 22	$a\ ^4P_{1\frac{1}{2}}—u\ ^4P_{2\frac{1}{2}}$	4
3138. 222	5	31855. 98	0. 04	$a\ ^4D_{2\frac{1}{2}}—w\ ^4P_{2\frac{1}{2}}$	
3141. 555	1	31822. 18	−0. 13	$z\ ^6P_{1\frac{1}{2}}—e\ ^4D_{1\frac{1}{2}}$	
3141. 821	5	31819. 49	0. 03	$a\ ^4D_{2\frac{1}{2}}—w\ ^4P_{1\frac{1}{2}}$	
3142. 401	1	31813. 61	{ −0. 02 0. 03	$a\ ^4F_{3\frac{1}{2}}—u\ ^4F_{4\frac{1}{2}}$ $z\ ^6P_{2\frac{1}{2}}—e\ ^4D_{1\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Air		K	K		
3142. 669	20w	31810. 90	0. 05	$a\ ^4D_{3\frac{1}{2}}—x\ ^4D_{3\frac{1}{2}}$	6, 7b
3144. 119	1	31776. 23	-0. 04	$a\ ^4F_{3\frac{1}{2}}—u\ ^4F_{2\frac{1}{2}}$	
3144. 222	1	31795. 19	0. 15	$a\ ^4F_{2\frac{1}{2}}—66910\ ^2S_{\frac{1}{2}}$	
3144. 872	3h	31788. 62	0. 01	$z\ ^6P_{1\frac{1}{2}}—i\ ^6D_{1\frac{1}{2}}$	
3145. 458	2h	31782. 69	0. 06	$z\ ^6P_{1\frac{1}{2}}—e\ ^4D_{2\frac{1}{2}}$	
3145. 727	1h	31779. 98	0. 10	$z\ ^6P_{2\frac{1}{2}}—i\ ^6D_{1\frac{1}{2}}$	
3146. 324	6h	31773. 95	0. 05	$z\ ^6P_{3\frac{1}{2}}—e\ ^4D_{2\frac{1}{2}}$	
3148. 182	200h	31755. 20	0. 03	$z\ ^8P_{2\frac{1}{2}}—f\ ^8S_{3\frac{1}{2}}$	4
3148. 857	8	31748. 39	-0. 04	$a\ ^4H_{4\frac{1}{2}}—v\ ^4G_{5\frac{1}{2}}$	4
3149. 529	6h	31741. 62	-0. 06	$a\ ^4F_{3\frac{1}{2}}—u\ ^4F_{3\frac{1}{2}}$	
3149. 928	5	31737. 60	-0. 08	$a\ ^4D_{1\frac{1}{2}}—w\ ^4P_{0\frac{1}{2}}$	4
3150. 616	2	31730. 67	-0. 04	$a\ ^4D_{3\frac{1}{2}}—x\ ^4D_{1\frac{1}{2}}$	
3150. 800	1	31728. 81	0. 00	$a\ ^4F_{2\frac{1}{2}}—u\ ^4F_{1\frac{1}{2}}$	
3151. 415	10h	31722. 62	-0. 04	$a\ ^4F_{2\frac{1}{2}}—u\ ^4F_{2\frac{1}{2}}$	
3152. 248	5	31714. 24	-0. 02	$a\ ^2H_{5\frac{1}{2}}—v\ ^2H_{5\frac{1}{2}}$	6, 7b
3152. 517	4Hw	31711. 53	0. 06	$z\ ^6P_{1\frac{1}{2}}—i\ ^6D_{2\frac{1}{2}}$	
3153. 393	7Hw	31702. 72	-0. 02	$z\ ^6P_{2\frac{1}{2}}—i\ ^6D_{2\frac{1}{2}}$	
3155. 094	1	31685. 63	0. 01	$a\ ^4D_{1\frac{1}{2}}—w\ ^4P_{2\frac{1}{2}}$	
3155. 781	10	31678. 73	-0. 01	$a\ ^4F_{1\frac{1}{2}}—u\ ^4F_{1\frac{1}{2}}$	
3156. 245	2h	31674. 07	0. 04	$z\ ^6P_{2\frac{1}{2}}—e\ ^4D_{3\frac{1}{2}}$	6, 7b
3156. 392	1h	31672. 60	0. 01	$a\ ^4F_{1\frac{1}{2}}—u\ ^4F_{2\frac{1}{2}}$	
3157. 658	3h	31659. 90	0. 07	$z\ ^6P_{3\frac{1}{2}}—e\ ^4D_{3\frac{1}{2}}$	
3157. 811	3	31658. 37	-0. 03	$a\ ^4H_{5\frac{1}{2}}—v\ ^4G_{4\frac{1}{2}}$	
3158. 723	10	31649. 12	-0. 02	$a\ ^4D_{1\frac{1}{2}}—w\ ^4P_{1\frac{1}{2}}$	6
3159. 825	4	31638. 19	-0. 14	$a\ ^4D_{0\frac{1}{2}}—w\ ^4P_{0\frac{1}{2}}$	
3159. 952	20	31636. 92	-0. 05	$a\ ^4D_{2\frac{1}{2}}—x\ ^4D_{2\frac{1}{2}}$	6, 7b
3160. 155	6	31634. 89	-0. 01	$a\ ^4F_{1\frac{1}{2}}—u\ ^4G_{5\frac{1}{2}}$	4
3161. 050	200h	31625. 93	-0. 06	$z\ ^8P_{3\frac{1}{2}}—f\ ^8S_{3\frac{1}{2}}$	6
3162. 210	1h	31614. 33	-0. 10	$b\ ^4D_{-1\frac{1}{2}}—y\ ^2F_{3\frac{1}{2}}$	
3163. 365	1	31602. 79	0. 01	$a\ ^2H_{4\frac{1}{2}}—v\ ^2H_{4\frac{1}{2}}$	
3163. 534	1	31601. 10	-0. 3	$a\ ^4G_{5\frac{1}{2}}—u\ ^6F^{\circ}$	
3165. 253	1	31583. 94	0. 02	$a\ ^4F_{4\frac{1}{2}}—u\ ^4G_{4\frac{1}{2}}$	
3166. 827	10h	31568. 24	0. 08	$z\ ^6P_{3\frac{1}{2}}—i\ ^6D_{3\frac{1}{2}}$	
3167. 153	2	31564. 99	-0. 03	$a\ ^4H_{4\frac{1}{2}}—v\ ^4G_{4\frac{1}{2}}$	
3167. 619	3	31560. 35	-0. 04	$a\ ^4D_{1\frac{1}{2}}—x\ ^4D_{1\frac{1}{2}}$	
3167. 827	8h	31558. 28	-0. 04	$a\ ^4D_{5\frac{1}{2}}—x\ ^4D_{3\frac{1}{2}}$	5
3167. 935	1	31557. 20	-0. 06	$b\ ^4P_{1\frac{1}{2}}—u\ ^2F_{2\frac{1}{2}}$	
3168. 254	4h	31554. 02	0. 06	$z\ ^6P_{3\frac{1}{2}}—i\ ^6D_{3\frac{1}{2}}$	
3168. 680	2	31549. 78	-0. 01	$a\ ^4D_{0\frac{1}{2}}—w\ ^4P_{1\frac{1}{2}}$	
3169. 356	4	31543. 06	0. 04	$a\ ^2H_{4\frac{1}{2}}—v\ ^2H_{4\frac{1}{2}}$	6, 7
3170. 427	4	31532. 40	-0. 04	$a\ ^4H_{4\frac{1}{2}}—v\ ^4G_{3\frac{1}{2}}$	
3173. 845	3	31498. 44	-0. 09	$b\ ^4P_{1\frac{1}{2}}—w\ ^2D_{1\frac{1}{2}}$	
3174. 746	20Hw	31489. 50	-0. 10	$a\ ^4F_{1\frac{1}{2}}—66654\ ^2S_{\frac{1}{2}}$	
3175. 355	3h	31483. 47	-0. 03	$b\ ^4P_{1\frac{1}{2}}—w\ ^2D_{2\frac{1}{2}}$	
3175. 576	12	31481. 28	0. 03	$a\ ^4F_{3\frac{1}{2}}—u\ ^4G_{4\frac{1}{2}}$	4
3175. 713	10	31479. 91	0. 06	$a\ ^4F_{4\frac{1}{2}}—u\ ^4H_{3\frac{1}{2}}$	
3177. 044	10	31466. 72	0. 07	$a\ ^4D_{1\frac{1}{2}}—x\ ^4D_{2\frac{1}{2}}$	5
3177. 616	5	31461. 06	0. 02	$a\ ^4D_{0\frac{1}{2}}—x\ ^4D_{1\frac{1}{2}}$	5
3178. 501	200	31452. 30	0. 04	$z\ ^8P_{4\frac{1}{2}}—f\ ^8S_{3\frac{1}{2}}$	4
3178. 730	2	31450. 03	-0. 10	$a\ ^4H_{3\frac{1}{2}}—v\ ^4G_{2\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$\text{o-e}$	Term designation	Zeeman type
Å		<i>K</i>	<i>K</i>		
Air					
3181. 269	1	31424. 94	0. 03	<i>a</i> ${}^4\text{H}_{4\frac{1}{2}}$ —65768 ${}^4\text{D}_{3\frac{1}{2}}$	
3181. 990	1	31417. 82	0. 12	<i>a</i> ${}^4\text{F}_{4\frac{1}{2}}$ — <i>u</i> ${}^4\text{H}_{4\frac{1}{2}}$	
3182. 498	2	31412. 90	0. 00	<i>a</i> ${}^4\text{F}_{3\frac{1}{2}}$ — <i>u</i> ${}^4\text{G}_{3\frac{1}{2}}$	
3185. 096	10 <i>h</i>	31387. 18	-0. 02	<i>z</i> ${}^6\text{P}_{3\frac{1}{2}}$ — <i>i</i> ${}^6\text{D}_{4\frac{1}{2}}$	
3186. 507	1 <i>h</i>	31373. 28	0. 03	<i>b</i> ${}^4\text{D}_{3\frac{1}{2}}$ — <i>z</i> ${}^2\text{F}_{2\frac{1}{2}}$	
3187. 213	2	31366. 33	0. 00	<i>b</i> ${}^4\text{D}_{2\frac{1}{2}}$ — <i>y</i> ${}^2\text{G}_{3\frac{1}{2}}$	
3189. 959	15	31339. 33	0. 04	<i>a</i> ${}^4\text{F}_{2\frac{1}{2}}$ — <i>u</i> ${}^4\text{G}_{3\frac{1}{2}}$	4
3192. 242	10	31315. 11	0. 08	<i>a</i> ${}^4\text{F}_{3\frac{1}{2}}$ — <i>u</i> ${}^4\text{H}_{4\frac{1}{2}}$	
3193. 788	1	31301. 76	0. 01	<i>b</i> ${}^4\text{D}_{1\frac{1}{2}}$ — <i>z</i> ${}^2\text{F}_{3\frac{1}{2}}$	
3194. 663	1 <i>h</i>	31293. 19	0. 09	<i>a</i> ${}^4\text{F}_{3\frac{1}{2}}$ — <i>u</i> ${}^4\text{H}_{3\frac{1}{2}}$	
3194. 855	1 <i>h</i>	31291. 31	-0. 06	<i>b</i> ${}^4\text{D}_{2\frac{1}{2}}$ — <i>z</i> ${}^2\text{F}_{3\frac{1}{2}}$	
3195. 988	2	31280. 22	0. 01	<i>a</i> ${}^4\text{F}_{2\frac{1}{2}}$ — <i>u</i> ${}^4\text{G}_{2\frac{1}{2}}$	
3201. 113	10	31230. 14	0. 00	<i>a</i> ${}^4\text{F}_{1\frac{1}{2}}$ — <i>u</i> ${}^4\text{G}_{3\frac{1}{2}}$	5
3202. 205	4	31219. 49	0. 00	<i>a</i> ${}^4\text{F}_{2\frac{1}{2}}$ — <i>u</i> ${}^4\text{H}_{3\frac{1}{2}}$	
3203. 131	4	31210. 47	0. 07	<i>a</i> ${}^4\text{F}_{4\frac{1}{2}}$ — <i>u</i> ${}^2\text{F}_{3\frac{1}{2}}$	
3206. 910	80	31173. 69	-0. 01	<i>a</i> ${}^6\text{D}_{4\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{3\frac{1}{2}}$	5
3211. 270	4 <i>h</i>	31131. 36	0. 23	<i>b</i> ${}^4\text{D}_{3\frac{1}{2}}$ — <i>w</i> ${}^4\text{G}_{4\frac{1}{2}}$	
3212. 887	200	31115. 70	-0. 02	<i>a</i> ${}^6\text{D}_{4\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{4\frac{1}{2}}$	6
3216. 947	100 <i>r</i>	31076. 42	0. 00	<i>a</i> ${}^6\text{S}_{2\frac{1}{2}}$ — <i>z</i> ${}^4\text{P}_{1\frac{1}{2}}$	5
3224. 758	150R	31001. 15	0. 00	<i>a</i> ${}^6\text{S}_{2\frac{1}{2}}$ — <i>z</i> ${}^4\text{P}_{2\frac{1}{2}}$	6
3226. 048	100	30988. 76	-0. 15	<i>a</i> ${}^6\text{D}_{3\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{2\frac{1}{2}}$	5
3227. 039	2	30979. 24	-0. 02	<i>a</i> ${}^4\text{F}_{3\frac{1}{2}}$ — <i>u</i> ${}^2\text{F}_{2\frac{1}{2}}$	
3228. 092	1000R	30969. 14	0. 00	<i>a</i> ${}^6\text{D}_{4\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{3\frac{1}{2}}$	4
3230. 231	10	30948. 64	0. 03	<i>a</i> ${}^4\text{F}_{4\frac{1}{2}}$ — <i>v</i> ${}^4\text{G}_{5\frac{1}{2}}$	
3230. 716	500R	30943. 98	-0. 01	<i>a</i> ${}^6\text{D}_{3\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{3\frac{1}{2}}$	5
3233. 939	200H	30913. 12	0. 04	<i>z</i> ${}^6\text{P}_{1\frac{1}{2}}$ — <i>h</i> ${}^6\text{D}_{0\frac{1}{2}}$	
3233. 997		30912. 67	0. 09	<i>z</i> ${}^6\text{P}_{1\frac{1}{2}}$ — <i>h</i> ${}^6\text{D}_{1\frac{1}{2}}$	
3234. 112		30911. 46	-0. 02	<i>z</i> ${}^6\text{P}_{1\frac{1}{2}}$ — <i>h</i> ${}^6\text{D}_{2\frac{1}{2}}$	
3234. 737		30905. 53	0. 03	<i>a</i> ${}^4\text{F}_{3\frac{1}{2}}$ — <i>w</i> ${}^2\text{D}_{2\frac{1}{2}}$	4
3234. 912	10 <i>h</i>	30903. 82	-0. 03	<i>z</i> ${}^6\text{P}_{2\frac{1}{2}}$ — <i>h</i> ${}^6\text{D}_{1\frac{1}{2}}$	
3235. 025	200 <i>k</i>	30902. 74	-0. 01	<i>z</i> ${}^6\text{P}_{2\frac{1}{2}}$ — <i>h</i> ${}^6\text{D}_{2\frac{1}{2}}$	P-B
3235. 307	300 <i>h</i>	30900. 05	0. 00	<i>z</i> ${}^6\text{P}_{2\frac{1}{2}}$ — <i>h</i> ${}^6\text{D}_{3\frac{1}{2}}$	P-B
3236. 515	5 <i>h</i>	30888. 55	0. 00	<i>z</i> ${}^6\text{P}_{3\frac{1}{2}}$ — <i>h</i> ${}^6\text{D}_{2\frac{1}{2}}$	
3236. 778	1000	30886. 04	{ 0. 03 0. 19	<i>a</i> ${}^6\text{D}_{3\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{4\frac{1}{2}}$ ( <i>z</i> ${}^6\text{P}_{3\frac{1}{2}}$ — <i>h</i> ${}^6\text{D}_{3\frac{1}{2}}$ )	4
3237. 019	1	30883. 74	0. 03	<i>z</i> ${}^8\text{P}_{3\frac{1}{2}}$ — <i>f</i> ${}^6\text{S}_{2\frac{1}{2}}$	
3237. 443	500 <i>Hw</i>	30879. 67	0. 02	<i>z</i> ${}^6\text{P}_{3\frac{1}{2}}$ — <i>h</i> ${}^6\text{D}_{4\frac{1}{2}}$	P-B
3238. 720	5	30867. 51	-0. 04	<i>a</i> ${}^4\text{F}_{3\frac{1}{2}}$ — <i>v</i> ${}^4\text{G}_{4\frac{1}{2}}$	4
3240. 408	150	30851. 52	0. 01	<i>a</i> ${}^6\text{D}_{4\frac{1}{2}}$ — <i>y</i> ${}^6\text{D}_{4\frac{1}{2}}$	6, 7b
3240. 613	100	30849. 49	0. 03	<i>a</i> ${}^6\text{D}_{2\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{3\frac{1}{2}}$	P-B
3240. 882	6	30846. 93	0. 01	<i>a</i> ${}^4\text{F}_{2\frac{1}{2}}$ — <i>w</i> ${}^2\text{D}_{1\frac{1}{2}}$	
3242. 139	1	30834. 97	0. 00	<i>a</i> ${}^4\text{F}_{3\frac{1}{2}}$ — <i>v</i> ${}^4\text{G}_{3\frac{1}{2}}$	
3242. 463	2 <i>h</i>	30831. 89	0. 00	<i>a</i> ${}^4\text{F}_{2\frac{1}{2}}$ — <i>w</i> ${}^2\text{D}_{2\frac{1}{2}}$	
3243. 777	500	30819. 40	0. 01	<i>a</i> ${}^6\text{D}_{2\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{2\frac{1}{2}}$	6
3246. 153	3	30796. 84	-0. 01	<i>a</i> ${}^4\text{F}_{1\frac{1}{2}}$ — <i>w</i> ${}^2\text{D}_{1\frac{1}{2}}$	
3248. 512	700 <i>r</i>	30774. 48	0. 01	<i>a</i> ${}^6\text{D}_{2\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{3\frac{1}{2}}$	4
3249. 894	6	30761. 40	0. 04	<i>a</i> ${}^4\text{F}_{2\frac{1}{2}}$ — <i>v</i> ${}^4\text{G}_{3\frac{1}{2}}$	P-B
3251. 134	150	30749. 66	0. 02	<i>a</i> ${}^6\text{D}_{1\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{0\frac{1}{2}}$	5
3252. 949	500 <i>r</i>	30732. 50	0. 00	<i>a</i> ${}^6\text{D}_{1\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{1\frac{1}{2}}$	6
3254. 037	100	30722. 23	0. 00	<i>a</i> ${}^6\text{D}_{4\frac{1}{2}}$ — <i>y</i> ${}^6\text{D}_{3\frac{1}{2}}$	4
3255. 508	5	30708. 35	0. 00	<i>a</i> ${}^4\text{F}_{1\frac{1}{2}}$ — <i>v</i> ${}^4\text{G}_{2\frac{1}{2}}$	P-B
3256. 137	500 <i>r</i>	30702. 42	-0. 01	<i>a</i> ${}^6\text{D}_{1\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{2\frac{1}{2}}$	4
3258. 414	400 <i>r</i>	30680. 96	-0. 01	<i>a</i> ${}^6\text{D}_{0\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{0\frac{1}{2}}$	6
3260. 238	300 <i>r</i>	30663. 80	-0. 03	<i>a</i> ${}^6\text{D}_{0\frac{1}{2}}$ — <i>y</i> ${}^6\text{F}_{1\frac{1}{2}}$	4
3262. 333	3	30644. 10	-0. 22	<i>a</i> ${}^4\text{H}_{4\frac{1}{2}}$ — <i>w</i> ${}^2\text{F}_{3\frac{1}{2}}$	
3263. 037	2	30637. 49	0. 01	<i>a</i> ${}^4\text{H}_{3\frac{1}{2}}$ — <i>v</i> ${}^4\text{H}_{4\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å		K	K		
Air					
3264. 710	300	30621. 79	−0. 01	<i>a</i> $^6D_{3\frac{1}{2}} - y$ $^6D_{2\frac{1}{2}}$	4
3267. 789	80	30592. 94	−0. 06	<i>a</i> $^4H_{5\frac{1}{2}} - v$ $^4H_{3\frac{1}{2}}$	6, 7b
3268. 720	70	30584. 23	0. 03	<i>b</i> $^4P_{2\frac{1}{2}} - u$ $^4D_{3\frac{1}{2}}$	4
3270. 353	60	30568. 96	−0. 05	<i>a</i> $^4H_{5\frac{1}{2}} - v$ $^4H_{3\frac{1}{2}}$	6, 7b
3270. 781	5h	30564. 96	0. 01	<i>a</i> $^4H_{3\frac{1}{2}} - w$ $^2F_{3\frac{1}{2}}$	
3273. 016	50	30544. 09	−0. 01	<i>a</i> $^4H_{4\frac{1}{2}} - v$ $^4H_{4\frac{1}{2}}$	6, 7b
3278. 062	15h	30497. 07	0. 01	<i>a</i> $^4H_{3\frac{1}{2}} - v$ $^4H_{3\frac{1}{2}}$	
3278. 551	100	30492. 52	0. 00	<i>a</i> $^6D_{3\frac{1}{2}} - y$ $^6D_{3\frac{1}{2}}$	6, 7b
3279. 751	5	30481. 37	0. 01	<i>a</i> $^4H_{5\frac{1}{2}} - v$ $^4H_{3\frac{1}{2}}$	
3280. 370	5	30475. 62	−0. 01	<i>a</i> $^4H_{4\frac{1}{2}} - v$ $^4H_{3\frac{1}{2}}$	
3280. 763	100	30471. 96	−0. 03	<i>a</i> $^6D_{3\frac{1}{2}} - y$ $^6D_{2\frac{1}{2}}$	
3281. 415	1	30465. 91	−0. 23	<i>b</i> $^4D_{3\frac{1}{2}} - w$ $^4F_{2\frac{1}{2}}$	
3281. 532	2	30464. 82	0. 09	<i>a</i> $^4H_{3\frac{1}{2}} - v$ $^4H_{4\frac{1}{2}}$	
3285. 482	1h	30428. 20	0. 02	<i>a</i> $^2I_{5\frac{1}{2}} - w$ $^2H_{3\frac{1}{2}}$	
3288. 548	1H	30399. 83	−0. 11	<i>a</i> $^4H_{3\frac{1}{2}} - w$ $^2F_{2\frac{1}{2}}$	
3288. 644	2H	30398. 94	0. 01	<i>b</i> $^4G_{5\frac{1}{2}} - t$ $^4G_{3\frac{1}{2}}$	
3289. 106	1	30394. 67	0. 03	<i>b</i> $^4D_{1\frac{1}{2}} - w$ $^4F_{2\frac{1}{2}}$	
3290. 969	25	30377. 46	−0. 06	<i>a</i> $^6D_{3\frac{1}{2}} - w$ $^6P_{3\frac{1}{2}}$	4
3294. 030	1h?	30349. 24	0. 11	<i>b</i> $^4D_{0\frac{1}{2}} - w$ $^4F_{1\frac{1}{2}}$	
3294. 934	1h	30340. 91	−0. 35	<i>b</i> $^4D_{2\frac{1}{2}} - w$ $^4F_{1\frac{1}{2}}$	
3295. 840	20	30332. 57	−0. 03	<i>b</i> $^4G_{5\frac{1}{2}} - t$ $^4G_{5\frac{1}{2}}$	6, 7b
3296. 025	40	30330. 88	−0. 03	<i>a</i> $^6D_{2\frac{1}{2}} - w$ $^6P_{1\frac{1}{2}}$	4
3296. 879	150	30323. 01	0. 01	<i>a</i> $^6D_{2\frac{1}{2}} - y$ $^6D_{3\frac{1}{2}}$	4
3298. 228	120	30310. 61	−0. 01	<i>a</i> $^4P_{2\frac{1}{2}} - v$ $^4S_{1\frac{1}{2}}$	4
3300. 943	10	30285. 68	0. 14	<i>a</i> $^4P_{2\frac{1}{2}} - v$ $^4P_{3\frac{1}{2}}$	6, 7b
3303. 280	100	30264. 25	0. 09	<i>a</i> $^4P_{1\frac{1}{2}} - y$ $^4S_{1\frac{1}{2}}$	
3303. 681	1h	30260. 58	−0. 16	<i>b</i> $^4G_{1\frac{1}{2}} - t$ $^4G_{3\frac{1}{2}}$	6
3304. 898	15h	30249. 44	−0. 13	<i>b</i> $^4P_{1\frac{1}{2}} - u$ $^4D_{2\frac{1}{2}}$	
3306. 004	2	30239. 32	0. 24	<i>a</i> $^4P_{1\frac{1}{2}} - v$ $^4P_{2\frac{1}{2}}$	
3306. 998	40	30230. 23	−0. 08	<i>a</i> $^4P_{0\frac{1}{2}} - y$ $^4S_{1\frac{1}{2}}$	4
3308. 065	8h	30220. 48	−0. 10	<i>b</i> $^4P_{1\frac{1}{2}} - u$ $^4D_{1\frac{1}{2}}$	6
3308. 778	40	30213. 97	0. 02	<i>a</i> $^6D_{1\frac{1}{2}} - w$ $^6P_{1\frac{1}{2}}$	6
3309. 428	2	30208. 04	0. 04	<i>a</i> $^6D_{2\frac{1}{2}} - w$ $^6P_{2\frac{1}{2}}$	
3311. 586	6hw	30188. 35	−0. 20	<i>b</i> $^4G_{1\frac{1}{2}} - t$ $^4G_{3\frac{1}{2}}$	
3311. 895	100l	30185. 54	0. 03	<i>a</i> $^6D_{1\frac{1}{2}} - y$ $^6D_{2\frac{1}{2}}$	
3313. 050	1H?	30175. 01	0. 07	<i>b</i> $^4G_{2\frac{1}{2}} - t$ $^4G_{2\frac{1}{2}}$	
3313. 200	50h	30173. 65	−0. 05	<i>z</i> $^6P_{1\frac{1}{2}} - g$ $^6D_{1\frac{1}{2}}$	P—B
3313. 458	10h	30171. 30	−0. 04	<i>z</i> $^6P_{1\frac{1}{2}} - g$ $^6D_{2\frac{1}{2}}$	
3313. 560	40h	30170. 36	−0. 22	<i>z</i> $^6P_{1\frac{1}{2}} - g$ $^6D_{0\frac{1}{2}}$	P—B
3314. 146	10hl	30165. 03	0. 06	<i>z</i> $^6P_{2\frac{1}{2}} - g$ $^6D_{1\frac{1}{2}}$	P—B
3314. 415	50hl	30162. 59	−0. 02	<i>z</i> $^6P_{3\frac{1}{2}} - g$ $^6D_{2\frac{1}{2}}$	P—B
3314. 889	100hl	30158. 27	0. 23	<i>z</i> $^6P_{2\frac{1}{2}} - g$ $^6D_{3\frac{1}{2}}$	P—B
3315. 343	4h	30154. 14	0. 00	<i>b</i> $^4G_{3\frac{1}{2}} - t$ $^4G_{3\frac{1}{2}}$	
3315. 975	7h	30148. 40	−0. 01	<i>z</i> $^6P_{3\frac{1}{2}} - g$ $^6D_{2\frac{1}{2}}$	
3316. 319	20	30145. 27	−0. 01	<i>a</i> $^6D_{0\frac{1}{2}} - w$ $^6P_{1\frac{1}{2}}$	4
3316. 459	60hl	30144. 00	0. 16	<i>z</i> $^6P_{3\frac{1}{2}} - g$ $^6D_{3\frac{1}{2}}$	P—B
3317. 289	200hl	30136. 46	0. 15	<i>z</i> $^6P_{3\frac{1}{2}} - g$ $^6D_{4\frac{1}{2}}$	P—B
3318. 874	1h	30122. 08	−0. 14	<i>b</i> $^4G_{4\frac{1}{2}} - t$ $^4G_{3\frac{1}{2}}$	
3319. 873	3	30113. 00	0. 22	<i>a</i> $^4P_{1\frac{1}{2}} - v$ $^4P_{1\frac{1}{2}}$	
3320. 692	100	30105. 57	−0. 05	<i>a</i> $^6D_{3\frac{1}{2}} - w$ $^6P_{3\frac{1}{2}}$	6
3322. 295	6	30091. 05	0. 01	<i>a</i> $^6D_{1\frac{1}{2}} - w$ $^6P_{2\frac{1}{2}}$	
3323. 633	6	30078. 93	0. 00	<i>a</i> $^4P_{0\frac{1}{2}} - v$ $^4P_{1\frac{1}{2}}$	4
3330. 663	100c	30015. 45	0. 31	<i>a</i> $^6D_{2\frac{1}{2}} - y$ $^6D_{1\frac{1}{2}}$	
3334. 557	8	29980. 40	0. 10	<i>a</i> $^4P_{1\frac{1}{2}} - v$ $^4P_{0\frac{1}{2}}$	4
3335. 039	3	29976. 06	0. 03	<i>b</i> $^4D_{2\frac{1}{2}} - z$ $^2D_{1\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o-c$	Term designation	Zeeman type
Å [Air]		K	K		
3338. 002	1	29949. 46	0. 16	$a\ ^4F_{4\frac{1}{2}}-v\ ^4H_{9\frac{1}{2}}$	
3338. 288	1h	29946. 90	0. 05	$a\ ^4F_{3\frac{1}{2}}-w\ ^2F_{3\frac{1}{2}}$	
3338. 346	2h	29946. 37	-0. 08	$a\ ^4P_{0\frac{1}{2}}-v\ ^4P_{0\frac{1}{2}}$	
3339. 126	2h	29939. 38	-0. 03	$b\ ^4P_{2\frac{1}{2}}-x\ ^2D_{5\frac{1}{2}}$	
3339. 486	1h	29936. 15	0. 05	$a\ ^6D_{2\frac{1}{2}}-w\ ^6P_{3\frac{1}{2}}$	
3342. 065	4	29913. 05	0. 02	$a\ ^4H_{6\frac{1}{2}}-x\ ^2H_{5\frac{1}{2}}$	
3343. 722	60	29898. 23	0. 05	$a\ ^6D_{1\frac{1}{2}}-y\ ^6D_{9\frac{1}{2}}$	
3345. 349	50	29883. 68	0. 00	$a\ ^6D_{1\frac{1}{2}}-y\ ^6D_{0\frac{1}{2}}$	4
3345. 656	2	29880. 94	0. 11	$a\ ^4F_{4\frac{1}{2}}-v\ ^4H_{9\frac{1}{2}}$	
3349. 494	2	29846. 71	0. 08	$a\ ^4F_{3\frac{1}{2}}-v\ ^4H_{4\frac{1}{2}}$	
3350. 409	10h	29838. 56	-0. 13	$b\ ^4P_{0\frac{1}{2}}-u\ ^4D_{9\frac{1}{2}}$	4
3351. 423	10	29829. 53	0. 02	$a\ ^6D_{0\frac{1}{2}}-y\ ^6D_{1\frac{1}{2}}$	
3351. 656	20c	29827. 46	0. 04	$a\ ^4D_{3\frac{1}{2}}-y\ ^4D_{3\frac{1}{2}}$	6, 7b
3353. 054	1	29815. 02	0. 01	$a\ ^6D_{0\frac{1}{2}}-y\ ^6D_{0\frac{1}{2}}$	
3353. 328	4h	29812. 58	0. 04	$a\ ^4D_{3\frac{1}{2}}-y\ ^4D_{2\frac{1}{2}}$	
3354. 135	1h	29805. 41	0. 06	$a\ ^4F_{2\frac{1}{2}}-v\ ^4H_{9\frac{1}{2}}$	
3354. 183	1h	29804. 98	0. 13	$a\ ^4H_{5\frac{1}{2}}-x\ ^2H_{3\frac{1}{2}}$	
3355. 479	10	29793. 47	0. 05	$b\ ^4P_{0\frac{1}{2}}-u\ ^4D_{9\frac{1}{2}}$	6
3356. 788	1h	29781. 86	0. 02	$a\ ^4F_{3\frac{1}{2}}-w\ ^2F_{3\frac{1}{2}}$	
3359. 419	20H	29758. 53	0. 18	$b\ ^4P_{2\frac{1}{2}}-63583\frac{1}{2}, \frac{1}{2}$	
3360. 681	10	29747. 36	-0. 08	$b\ ^4D_{3\frac{1}{2}}-z\ ^2D_{2\frac{1}{2}}$	5
3361. 054	2	29744. 06	-0. 08	$a\ ^2H_{5\frac{1}{2}}-t\ ^4G_{9\frac{1}{2}}$	
3362. 535	1	29730. 96	0. 15	$a\ ^6D_{1\frac{1}{2}}-y\ ^4P_{0\frac{1}{2}}$	
3364. 188	6	29716. 35	0. 08	$b\ ^4D_{1\frac{1}{2}}-w\ ^4D_{0\frac{1}{2}}$	
3365. 137	8cw	29707. 97	-0. 04	$a\ ^4H_{4\frac{1}{2}}-x\ ^2H_{5\frac{1}{2}}?$	
3365. 693	3	29703. 06	0. 07	$a\ ^6D_{2\frac{1}{2}}-y\ ^4P_{1\frac{1}{2}}$	
3366. 235	10	29698. 28	-0. 05	$b\ ^4P_{2\frac{1}{2}}-63523\frac{1}{2}, \frac{3}{2}$	6
3368. 086	1	29681. 96	-0. 08	$b\ ^4D_{2\frac{1}{2}}-z\ ^2D_{2\frac{1}{2}}$	
3368. 194	7h	29681. 00	0. 02	$z\ ^6P_{1\frac{1}{2}}-h\ ^6S_{2\frac{1}{2}}$	
3369. 188	10h	29672. 25	0. 00	$z\ ^6P_{2\frac{1}{2}}-h\ ^6S_{2\frac{1}{2}}$	
3370. 813	15h	29657. 95	-0. 10	$z\ ^6P_{3\frac{1}{2}}-h\ ^6S_{2\frac{1}{2}}$	
3372. 087	15	29646. 74	0. 00	$a\ ^4F_{4\frac{1}{2}}-x\ ^2G_{4\frac{1}{2}}$	6
3375. 223	3	29619. 20	0. 07	$a\ ^6D_{3\frac{1}{2}}-y\ ^4P_{2\frac{1}{2}}$	
3376. 527	6	29607. 76	-0. 07	$a\ ^4F_{3\frac{1}{2}}-x\ ^2G_{3\frac{1}{2}}$	
3378. 871	3	29587. 22	0. 02	$a\ ^4D_{3\frac{1}{2}}-x\ ^6D_{2\frac{1}{2}}$	
3380. 283	5c	29574. 86	-0. 03	$a\ ^4D_{2\frac{1}{2}}-y\ ^4D_{3\frac{1}{2}}$	
3380. 444	10c	29573. 46	0. 03	$a\ ^4D_{3\frac{1}{2}}-x\ ^6D_{3\frac{1}{2}}$	
3380. 817	10	29570. 19	0. 03	$b\ ^4D_{2\frac{1}{2}}-w\ ^4D_{1\frac{1}{2}}$	
3381. 981	4c	29560. 01	0. 00	$a\ ^4D_{2\frac{1}{2}}-y\ ^4D_{2\frac{1}{2}}$	
3382. 673	3	29553. 96	-0. 03	$a\ ^4D_{2\frac{1}{2}}-y\ ^4D_{1\frac{1}{2}}$	
3383. 585	9h	29546. 00	-0. 07	$b\ ^4P_{2\frac{1}{2}}-63371\frac{1}{2}, \frac{3}{2}$	
3386. 863	1	29517. 40	0. 04	$a\ ^6D_{0\frac{1}{2}}-y\ ^4P_{1\frac{1}{2}}$	
3389. 287	2	29496. 29	0. 09	$a\ ^2H_{5\frac{1}{2}}-w\ ^2H_{5\frac{1}{2}}$	6, 7b
3393. 843	1	29456. 70	0. 04	$a\ ^2H_{4\frac{1}{2}}-w\ ^2H_{4\frac{1}{2}}$	6, 7b
3396. 367	2h	29434. 81	0. 05	$b\ ^4G_{5\frac{1}{2}}-u\ ^4F_{0\frac{1}{2}}$	
3399. 878	1	29404. 41	0. 08	$a\ ^2I_{6\frac{1}{2}}-u\ ^4H_{8\frac{1}{2}}$	
3401. 578	3	29389. 72	0. 03	$a\ ^4D_{1\frac{1}{2}}-y\ ^4D_{2\frac{1}{2}}$	
3402. 490	2	29381. 84	{ 0. 04 -0. 11	$a\ ^4P_{1\frac{1}{2}}-y\ ^4D_{0\frac{1}{2}}$ $b\ ^4P_{1\frac{1}{2}}-x\ ^2D_{1\frac{1}{2}}$	
3406. 122	1	29350. 51	-0. 17	$b\ ^4G_{4\frac{1}{2}}-66981\frac{1}{2}, \frac{3}{2}$	
3407. 962	20	29334. 66	-0. 01	$a\ ^4D_{2\frac{1}{2}}-x\ ^6D_{2\frac{1}{2}, 1\frac{1}{2}}$	4
3408. 188	1	29332. 72	0. 07	$a\ ^6D_{1\frac{1}{2}}-y\ ^4P_{2\frac{1}{2}}$	
3409. 561	3c	29320. 91	0. 01	$a\ ^4D_{2\frac{1}{2}}-x\ ^6D_{3\frac{1}{2}}$	
3410. 345	1	29314. 17	-0. 04	$b\ ^4P_{2\frac{1}{2}}-x\ ^2F_{2\frac{1}{2}}$	
3410. 800	5	29310. 26	0. 01	$a\ ^4H_{6\frac{1}{2}}-y\ ^2H_{5\frac{1}{2}}$	
3411. 816	1	29301. 53	0. 00	$b\ ^4P_{1\frac{1}{2}}-x\ ^2D_{2\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å		K	K		
Air					
3412. 543	3hl	29295. 29	0. 02	$a\ ^2F_{3\frac{1}{2}}-l\ ^4G_{5\frac{1}{2}}$	
3413. 815	1	29284. 37	0. 05	$a\ ^4D_{0\frac{1}{2}}-y\ ^4D_{1\frac{1}{2}}$	
3417. 158	6	29255. 73	-0. 06	$b\ ^4P_{2\frac{1}{2}}-y\ ^2D_{2\frac{1}{2}}$	
3418. 276	15	29246. 15	0. 01	$b\ ^4D_{3\frac{1}{2}}-w\ ^4D_{2\frac{1}{2}}$	
3420. 794	50	29224. 63	-0. 03	$a\ ^4H_{6\frac{1}{2}}-w\ ^4H_{6\frac{1}{2}}$	5 6, 7b
3421. 491	1	29218. 67	0. 06	$b\ ^4G_{2\frac{1}{2}}-67008\ ^{\circ}_{2\frac{1}{2}}$	
3422. 418	1	29210. 76	0. 08	$b\ ^4G_{5\frac{1}{2}}-v\ ^2G_{4\frac{1}{2}}$	
3422. 826	10	29207. 28	-0. 05	$a\ ^4H_{5\frac{1}{2}}-w\ ^4H_{5\frac{1}{2}}$	6, 7b
3423. 137	2	29204. 63	0. 04	$a\ ^4H_{4\frac{1}{2}}-z\ ^2H_{4\frac{1}{2}}$	6
3423. 841	10	29198. 62	0. 01	$a\ ^4H_{5\frac{1}{2}}-y\ ^2H_{5\frac{1}{2}}$	
3424. 375	5	29194. 07	-0. 02	$a\ ^4H_{5\frac{1}{2}}-w\ ^4H_{4\frac{1}{2}}$	
3425. 929	1	29180. 82	0. 08	$b\ ^4D_{2\frac{1}{2}}-w\ ^4D_{3\frac{1}{2}}$	
3427. 865	10	29164. 34	-0. 01	$a\ ^4D_{1\frac{1}{2}}-x\ ^6D_{2\frac{1}{2}}, \ ^{1\frac{1}{2}}$	
3427. 957	3	29163. 56	-0. 02	$a\ ^4D_{1\frac{1}{2}}-x\ ^6D_{0\frac{1}{2}}$	
3428. 782	15	29156. 55	0. 00	$b\ ^4D_{0\frac{1}{2}}-u\ ^4P_{0\frac{1}{2}}$	6
3429. 155	4	29153. 37	0. 01	$b\ ^4G_{5\frac{1}{2}}-u\ ^4G_{5\frac{1}{2}}$	
3429. 741	2	29148. 39	0. 05	$b\ ^4G_{5\frac{1}{2}}-u\ ^4H_{3\frac{1}{2}}$	
3430. 428	1	29142. 56	-0. 02	$b\ ^4D_{1\frac{1}{2}}-u\ ^4P_{0\frac{1}{2}}$	
3433. 025	5h	29120. 51	0. 04	$b\ ^4P_{1\frac{1}{2}}-63583\ ^{\circ}_{2\frac{1}{2}}, \ ^{1\frac{1}{2}}$	
3433. 572	50	29115. 87	-0. 06	$b\ ^4D_{3\frac{1}{2}}-v\ ^4D_{3\frac{1}{2}}$	6
3433. 911	1	29113. 00	-0. 02	$a\ ^4H_{5\frac{1}{2}}-w\ ^4H_{5\frac{1}{2}}$	
3434. 473	2	29108. 23	-0. 05	$b\ ^4D_{2\frac{1}{2}}-v\ ^4D_{1\frac{1}{2}}$	
3434. 823	1	29105. 27	0. 04	$a\ ^4H_{4\frac{1}{2}}-y\ ^2H_{5\frac{1}{2}}$	
3435. 193	5	29102. 13	-0. 05	$b\ ^4D_{1\frac{1}{2}}-v\ ^4D_{1\frac{1}{2}}$	P—B
3435. 254	4	29101. 62	-0. 03	$b\ ^4D_{1\frac{1}{2}}-v\ ^4D_{0\frac{1}{2}}$	P—B
3435. 375	5	29100. 59	{ -0. 12 0. 04	$a\ ^4H_{4\frac{1}{2}}-w\ ^4H_{4\frac{1}{2}}$ $a\ ^4H_{3\frac{1}{2}}-63523\ ^{\circ}_{2\frac{1}{2}}$	6, 7b
3439. 579	3	29065. 02	0. 02	$a\ ^4D_{0\frac{1}{2}}-x\ ^6D_{1\frac{1}{2}}$	
3439. 673	3	29064. 23	0. 00	$a\ ^4D_{0\frac{1}{2}}-x\ ^6D_{0\frac{1}{2}}$	
3440. 044	10	29061. 10	-0. 09	$b\ ^4D_{2\frac{1}{2}}-v\ ^4D_{2\frac{1}{2}}$	6
3440. 769	1	29054. 97	-0. 12	$b\ ^4D_{1\frac{1}{2}}-v\ ^4D_{2\frac{1}{2}}$	
3440. 907	1	29053. 79	-0. 07	$b\ ^4G_{2\frac{1}{2}}-u\ ^4F_{1\frac{1}{2}}$	
3441. 177	2	29051. 53	-0. 02	$a\ ^4H_{4\frac{1}{2}}-w\ ^4H_{3\frac{1}{2}}$	
3442. 756	5	29038. 20	-0. 06	$a\ ^4H_{5\frac{1}{2}}-z\ ^2H_{5\frac{1}{2}}$	
3443. 657	5h	29030. 60	-0. 03	$a\ ^4H_{4\frac{1}{2}}-63374\ ^{\circ}_{4\frac{1}{2}}$	
3444. 237	2hc	29025. 72	-0. 26	$b\ ^4P_{2\frac{1}{2}}-w\ ^6D_{3\frac{1}{2}}$	
3446. 519	1	29006. 50	-0. 01	$b\ ^4D_{3\frac{1}{2}}-x\ ^4F_{2\frac{1}{2}}$	
3446. 766	2	29004. 42	0. 01	$b\ ^4D_{0\frac{1}{2}}-x\ ^4F_{1\frac{1}{2}}$	
3446. 822	5	29003. 95	-0. 06	$a\ ^4H_{4\frac{1}{2}}-y\ ^2H_{4\frac{1}{2}}$	
3448. 429	1h	28990. 44	0. 00	$b\ ^4D_{1\frac{1}{2}}-x\ ^4F_{1\frac{1}{2}}$	
3449. 036	1	28985. 34	0. 00	$b\ ^4D_{3\frac{1}{2}}-w\ ^4D_{3\frac{1}{2}}$	
3450. 607	20	28972. 14	-0. 04	$a\ ^4H_{3\frac{1}{2}}-w\ ^4H_{3\frac{1}{2}}$	6
3450. 932	1h	28969. 41	-0. 14	$b\ ^4G_{4\frac{1}{2}}-66600\ ^{\circ}_{3\frac{1}{2}}$	
3451. 475	7	28964. 85	0. 01	$b\ ^4D_{2\frac{1}{2}}-u\ ^4P_{1\frac{1}{2}}$	
3452. 201	5	28958. 76	0. 02	$b\ ^4D_{1\frac{1}{2}}-u\ ^4P_{1\frac{1}{2}}$	
3452. 440	5w	28956. 75	0. 18	$a\ ^4D_{3\frac{1}{2}}-u\ ^6P_{3\frac{1}{2}}$	
3453. 426	2h	28948. 49	0. 01	$a\ ^6D_{4\frac{1}{2}}-y\ ^8P_{3\frac{1}{2}}$	
3453. 505	2hw	28947. 83	-0. 06	$b\ ^4G_{2\frac{1}{2}}-v\ ^2G_{3\frac{1}{2}}$	
3453. 861	1	28944. 84	{ -0. 04 -0. 04	$a\ ^4H_{4\frac{1}{2}}-z\ ^2H_{5\frac{1}{2}}$ $a\ ^4H_{4\frac{1}{2}}-x\ ^2F_{3\frac{1}{2}}$	
3454. 110	2	28942. 76	-0. 22	$b\ ^4G_{4\frac{1}{2}}-u\ ^4G_{5\frac{1}{2}}$	
3454. 309	1	28941. 09	-0. 02	$b\ ^4D_{2\frac{1}{2}}-x\ ^4F_{2\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o - e$	Term designation	Zeeman type
Air		K	K		
3454. 926	8	28935. 92	{ 0. 08 - 0. 10	$b^4P_{2\frac{1}{2}} - w^6D_{2\frac{1}{2}}$ $b^4D_{3\frac{1}{2}} - x^4F_{3\frac{1}{2}}$	
3455. 045	8	28934. 92	- 0. 09	$b^4D_{1\frac{1}{2}} - x^4F_{2\frac{1}{2}}$	
3456. 268	1	28924. 69	0. 05	$a^4H_{3\frac{1}{2}} - y^2H_{4\frac{1}{2}}$	
3456. 850	1	28919. 81	- 0. 13	$b^4D_{2\frac{1}{2}} - w^4D_{3\frac{1}{2}}$	
3458. 246	2h	28908. 14	- 0. 05	$b^4P_{1\frac{1}{2}} - 63371_{3\frac{1}{2}}$	
3458. 842	5	28903. 16	- 0. 07	$b^4D_{3\frac{1}{2}} - x^4F_{4\frac{1}{2}}$	
3462. 755	10	28870. 50	- 0. 12	$b^4D_{2\frac{1}{2}} - x^4F_{3\frac{1}{2}}$	P-B
3463. 356	3	28865. 49	- 0. 02	$a^4H_{3\frac{1}{2}} - x^2F_{3\frac{1}{2}}$	
3463. 657	15	28862. 98	0. 03	$b^4G_{3\frac{1}{2}} - 66600_{3\frac{1}{2}}$	6
3470. 013	15	28810. 12	- 0. 12	$b^4G_{2\frac{1}{2}} - 66600_{3\frac{1}{2}}$	7b?
3472. 986	1	28785. 45	0. 05	$b^4G_{3\frac{1}{2}} - u^4G_{4\frac{1}{2}}$	
3475. 776	20	28762. 35	- 0. 04	$b^4D_{3\frac{1}{2}} - u^4P_{2\frac{1}{2}}$	4
3478. 645	2hl	28738. 63	{ 0. 05 - 0. 02	$b^4P_{0\frac{1}{2}} - 63583_{1\frac{1}{2}}$ $a^2I_{5\frac{1}{2}} - v^4G_{5\frac{1}{2}}$	
3480. 609	5h	28722. 41	0. 14	$a^4P_{2\frac{1}{2}} - 55923_{2\frac{1}{2}}$	
3481. 053	1	28718. 75	- 0. 02	$a^6D_{3\frac{1}{2}} - y^8P_{3\frac{1}{2}}$	
3481. 342	2	28716. 36	- 0. 07	$a^4H_{3\frac{1}{2}} - x^2F_{2\frac{1}{2}}$	
3483. 084	20	28702. 00	0. 02	$a^6D_{4\frac{1}{2}} - z^4D_{3\frac{1}{2}}$	
3483. 689	6	28697. 02	0. 03	$b^4D_{2\frac{1}{2}} - u^4P_{2\frac{1}{2}}$	
3484. 355	2	28691. 54	0. 06	$a^2G_{4\frac{1}{2}} - v^2H_{5\frac{1}{2}}$	
3485. 724	2h	28680. 27	- 0. 15	$z^8P_{3\frac{1}{2}} - e^6D_{3\frac{1}{2}}$	
3486. 239	2h	28676. 03	0. 22	$a^4P_{1\frac{1}{2}} - 55923_{2\frac{1}{2}}$	
3487. 658	1	28664. 36	0. 02	$b^4G_{2\frac{1}{2}} - u^4G_{3\frac{1}{2}}$	
3488. 309	5	28659. 01	0. 08	$a^6D_{3\frac{1}{2}} - z^4D_{2\frac{1}{2}}$	
3491. 548	1	28632. 43	0. 06	$a^6D_{2\frac{1}{2}} - z^4D_{1\frac{1}{2}}$	
3492. 786	1	28622. 28	0. 06	$a^2H_{5\frac{1}{2}} - v^2G_{4\frac{1}{2}}$	
3493. 352	1	28617. 64	0. 00	$a^2H_{4\frac{1}{2}} - v^2G_{3\frac{1}{2}}$	
3494. 861	2h	28605. 29	0. 03	$b^4G_{2\frac{1}{2}} - u^4G_{3\frac{1}{2}}$	
3503. 727	2	28532. 91	0. 13	$a^6D_{0\frac{1}{2}} - z^4D_{0\frac{1}{2}}$	
3504. 085	2h	28529. 99	0. 07	$a^6D_{2\frac{1}{2}} - y^8P_{2\frac{1}{2}}$	
3505. 408	1	28519. 22	0. 07	$a^4F_{4\frac{1}{2}} - w^4H_{5\frac{1}{2}}$	
3505. 863	2	28515. 52	0. 11	$a^6D_{1\frac{1}{2}} - z^4D_{1\frac{1}{2}}$	
3507. 158	2h	28504. 99	0. 06	$a^4F_{3\frac{1}{2}} - 63546_{3\frac{1}{2}}$	
3507. 538	3h	28501. 90	- 0. 01	$z^8P_{4\frac{1}{2}} - e^6D_{4\frac{1}{2}}$	
3509. 067	3	28489. 48	0. 07	$a^6D_{2\frac{1}{2}} - z^4D_{2\frac{1}{2}}$	
3509. 168	1	28488. 66	- 0. 02	$b^4G_{5\frac{1}{2}} - v^4G_{4\frac{1}{2}}$	
3511. 188	4	28472. 28	0. 01	$a^6D_{3\frac{1}{2}} - z^4D_{3\frac{1}{2}}$	
3511. 831	20	28467. 06	- 0. 01	$b^4G_{5\frac{1}{2}} - v^4G_{5\frac{1}{2}}$	6, 7
3514. 330	1	28446. 82	0. 08	$a^6D_{0\frac{1}{2}} - z^4D_{1\frac{1}{2}}$	
3515. 690	3h	28435. 82	- 0. 01	$a^4F_{4\frac{1}{2}} - 63374_{3\frac{1}{2}}$	
3516. 053	2	28432. 88	- 0. 02	$a^2G_{3\frac{1}{2}} - v^2H_{4\frac{1}{2}}$	
3518. 989	2h	28409. 16	{ - 0. 05 0. 03	$a^4F_{4\frac{1}{2}} - y^2H_{4\frac{1}{2}}$ $a^4D_{1\frac{1}{2}} - u^4P_{2\frac{1}{2}}$	
3523. 530	3	28372. 54	0. 09	$a^6D_{1\frac{1}{2}} - z^4D_{2\frac{1}{2}}$	
3525. 212	1h	28359. 01	- 0. 16	$b^4G_{2\frac{1}{2}} - u^2F_{2\frac{1}{2}}$	
3526. 322	1	28350. 09	{ 0. 01 0. 01	$a^4F_{4\frac{1}{2}} - z^2H_{5\frac{1}{2}}$ $a^4F_{4\frac{1}{2}} - x^2F_{3\frac{1}{2}}$	
3526. 492	1	28348. 72	0. 15	$b^4G_{5\frac{1}{2}} - 65768_{4\frac{1}{2}}$	
3529. 534	1	28324. 29	0. 03	$b^4P_{1\frac{1}{2}} - w^6D_{1\frac{1}{2}}$	
3531. 836	1600	28305. 82	- 0. 05	$z^8P_{2\frac{1}{2}} - e^8D_{3\frac{1}{2}}$	P-B
3531. 998	1800	28304. 53	- 0. 04	$z^8P_{2\frac{1}{2}} - e^8D_{2\frac{1}{2}}$	P-B
3532. 110	2000	28303. 63	0. 00	$z^8P_{2\frac{1}{2}} - e^8D_{1\frac{1}{2}}$	P-B
3535. 297	10	28278. 11	- 0. 19	$b^4G_{4\frac{1}{2}} - v^4G_{4\frac{1}{2}}$	6, 7b
3538. 002	5	28256. 50	- 0. 19	$b^4G_{4\frac{1}{2}} - v^4G_{5\frac{1}{2}}$	
3539. 371	2	28245. 57	- 0. 15	$b^4G_{4\frac{1}{2}} - v^4G_{3\frac{1}{2}}$	
3541. 234	1	28230. 70	0. 00	$b^4G_{2\frac{1}{2}} - u^2F_{2\frac{1}{2}}$	
3547. 794	4000	28178. 51	0. 00	$z^8P_{3\frac{1}{2}} - e^8D_{4\frac{1}{2}}$	P-B
3548. 022	3000	28176. 69	0. 00	$z^8P_{3\frac{1}{2}} - e^8D_{3\frac{1}{2}}$	P-B

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å		K	K		
Air					
3548. 182	1000	28175. 43	0. 04	$z \ ^8P_{3\frac{1}{2}} - e \ ^8D_{2\frac{1}{2}}$	P—B
3552. 757	10	28139. 14	0. 02	$b \ ^4G_{3\frac{1}{2}} - v \ ^4G_{3\frac{1}{2}}$	
3552. 901	4	28138. 00	-0. 19	$b \ ^4G_{4\frac{1}{2}} - 65768 \ ^8A_{2\frac{1}{2}}$	
3553. 121	1	28136. 26	0. 08	$b \ ^4G_{3\frac{1}{2}} - v \ ^4G_{2\frac{1}{2}}$	
3555. 066	2	28120. 87	0. 21	$a \ ^4P_{1\frac{1}{2}} - w \ ^4P_{1\frac{1}{2}}$	
3559. 373	2	28086. 84	0. 03	$a \ ^4P_{0\frac{1}{2}} - w \ ^4P_{0\frac{1}{2}}$	
3559. 434	2	28086. 36	-0. 05	$b \ ^4G_{2\frac{1}{2}} - v \ ^4G_{3\frac{1}{2}}$	
3559. 808	10	28083. 41	-0. 06	$b \ ^4G_{2\frac{1}{2}} - v \ ^4G_{2\frac{1}{2}}$	
3561. 736	1	28068. 21	-0. 01	$a \ ^2F_{3\frac{1}{2}} - v \ ^2G_{3\frac{1}{2}}$	
3566. 330	1	28032. 05	0. 14	$a \ ^4P_{1\frac{1}{2}} - x \ ^4D_{1\frac{1}{2}}$	
3566. 731	3	28028. 91	-0. 01	$a \ ^2H_{4\frac{1}{2}} - u \ ^2F_{3\frac{1}{2}}$	
3569. 494	6000	28007. 21	0. 00	$z \ ^8P_{4\frac{1}{2}} - e \ ^8D_{3\frac{1}{2}}$	P—B
3569. 804	3000	28004. 78	0. 00	$z \ ^8P_{3\frac{1}{2}} - e \ ^8D_{4\frac{1}{2}}$	P—B
3570. 028	1000	28003. 02	0. 06	$z \ ^8P_{4\frac{1}{2}} - e \ ^8D_{3\frac{1}{2}}$	P—B
3572. 354	1	27984. 79	0. 16	$a \ ^4P_{2\frac{1}{2}} - x \ ^4D_{2\frac{1}{2}}$	
3575. 356	1	27961. 29	-0. 03	$a \ ^2F_{3\frac{1}{2}} - v \ ^2G_{4\frac{1}{2}}$	
3575. 967	4H	27956. 51	0. 00	$z \ ^6P_{3\frac{1}{2}} - f \ ^6D_{0\frac{1}{2}}$	
3576. 073	8H	27955. 68	-0. 01	$z \ ^6P_{1\frac{1}{2}} - f \ ^6D_{1\frac{1}{2}}$	
3576. 303	4H	27953. 89	-0. 01	$z \ ^6P_{1\frac{1}{2}} - f \ ^6D_{2\frac{1}{2}}$	
3577. 187	2H	27946. 98	0. 02	$z \ ^6P_{2\frac{1}{2}} - f \ ^6D_{1\frac{1}{2}}$	
3577. 416	5H	27945. 19	0. 02	$z \ ^6P_{2\frac{1}{2}} - f \ ^6D_{2\frac{1}{2}}$	
3577. 870	2000	27941. 64	0. 01	$a \ ^6D_{4\frac{1}{2}} - x \ ^6P_{3\frac{1}{2}}$	
3578. 285	3	27938. 40	0. 23	$a \ ^4P_{1\frac{1}{2}} - x \ ^4D_{2\frac{1}{2}}$	
3579. 637	8	27927. 85	-0. 31	$z \ ^6P_{3\frac{1}{2}} - f \ ^6D_{3\frac{1}{2}}$	
3580. 112	40H $\ell$	27924. 14	0. 00	$z \ ^6P_{3\frac{1}{2}} - f \ ^6D_{4\frac{1}{2}}$	
3581. 545	5Hw	27912. 97	0. 20	$a \ ^4F_{4\frac{1}{2}} - w \ ^6D_{3\frac{1}{2}}$	
3582. 425	20c	27906. 11	0. 13	$a \ ^4P_{3\frac{1}{2}} - x \ ^4D_{3\frac{1}{2}}$	4
3583. 187	2	27900. 18	-0. 04	$a \ ^2H_{5\frac{1}{2}} - v \ ^4G_{4\frac{1}{2}}$	
3583. 675	40	27896. 38	-0. 07	$a \ ^4D_{3\frac{1}{2}} - x \ ^4P_{1\frac{1}{2}}$	4
3585. 966	1	27878. 56	-0. 05	$a \ ^2H_{5\frac{1}{2}} - v \ ^4G_{5\frac{1}{2}}$	
3586. 540	1000h	27874. 10	-0. 01	$a \ ^6D_{3\frac{1}{2}} - x \ ^6P_{2\frac{1}{2}}$	
3590. 664	2	27842. 09	0. 05	$b \ ^4G_{3\frac{1}{2}} - w \ ^2G_{3\frac{1}{2}}$	
3591. 806	15	27833. 23	-0. 03	$a \ ^4D_{1\frac{1}{2}} - x \ ^4P_{0\frac{1}{2}}$	
3592. 556	1	27827. 42	-0. 02	$b \ ^4G_{2\frac{1}{2}} - v \ ^2F_{3\frac{1}{2}}$	
3595. 110	500h	27807. 65	0. 00	$a \ ^6D_{2\frac{1}{2}} - x \ ^6P_{1\frac{1}{2}}$	
3597. 560	1	27788. 72	-0. 02	$a \ ^2H_{4\frac{1}{2}} - v \ ^4G_{4\frac{1}{2}}$	
3599. 504	4Hw	27773. 71	0. 02	$a \ ^4H_{3\frac{1}{2}} - y \ ^2I_{0\frac{1}{2}}$	
3601. 268	20	27760. 11	0. 00	$a \ ^2H_{5\frac{1}{2}} - 65768 \ ^8A_{2\frac{1}{2}}$	4
3601. 772	20c	27756. 22	0. 01	$a \ ^4D_{2\frac{1}{2}} - x \ ^4P_{2\frac{1}{2}}$	6
3604. 670	15c	27733. 91	0. 00	$a \ ^4D_{0\frac{1}{2}} - x \ ^4P_{0\frac{1}{2}}$	6
3605. 683	20	27726. 12	-0. 01	$a \ ^4D_{1\frac{1}{2}} - x \ ^4P_{1\frac{1}{2}}$	6
3606. 489	2H	27719. 92	-0. 04	$a \ ^4F_{3\frac{1}{2}} - w \ ^6D_{2\frac{1}{2}}$	
3606. 702	1H	27718. 28	0. 00	$a \ ^4D_{3\frac{1}{2}} - x \ ^6F_{3\frac{1}{2}}$	
3607. 530	1000	27711. 92	0. 00	$a \ ^6D_{3\frac{1}{2}} - x \ ^6P_{3\frac{1}{2}}$	6
3608. 485	1000	27704. 59	0. 00	$a \ ^6D_{2\frac{1}{2}} - x \ ^6P_{2\frac{1}{2}}$	6
3610. 298	1000	27690. 68	-0. 01	$a \ ^6D_{1\frac{1}{2}} - x \ ^6P_{1\frac{1}{2}}$	6
3612. 612	2H	27672. 94	0. 29	$a \ ^4F_{2\frac{1}{2}} - w \ ^6D_{1\frac{1}{2}}$	
3615. 375	10H	27651. 78	0. 03	$a \ ^4H_{3\frac{1}{2}} - y \ ^2F_{3\frac{1}{2}}$	
3618. 646	2	27626. 80	0. 02	$a \ ^4D_{0\frac{1}{2}} - x \ ^4P_{0\frac{1}{2}}$	
3619. 272	600	27622. 02	0. 00	$a \ ^6D_{0\frac{1}{2}} - x \ ^6P_{0\frac{1}{2}}$	4
3620. 751	1h	27610. 73	-0. 04	$a \ ^4H_{3\frac{1}{2}} - y \ ^2F_{3\frac{1}{2}}$	
3621. 483	6Hw	27605. 15	-0. 01	$a \ ^4H_{6\frac{1}{2}} - 61744 \ ^8A_{0\frac{1}{2}}$	
3623. 783	500h	27587. 63	0. 00	$a \ ^6D_{1\frac{1}{2}} - x \ ^6P_{3\frac{1}{2}}$	5
3626. 299	3Hw	27568. 49	-0. 06	$a \ ^4H_{5\frac{1}{2}} - y \ ^2I_{5\frac{1}{2}}$	
3629. 738	400h	27542. 38	-0. 02	$a \ ^6D_{2\frac{1}{2}} - x \ ^6P_{3\frac{1}{2}}$	5

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o-c$	Term designation	Zeeman type
Å Air		<i>K</i>	<i>K</i>		
3635. 699	10	27497. 22	0. 03	<i>a</i> $^2H_{4\frac{1}{2}} - v$ $^2F_{3\frac{1}{2}}$	4
3636. 190	$2Hw$	27493. 51	-0. 01	<i>a</i> $^4H_{5\frac{1}{2}} - 61744$ $^3S_{\frac{1}{2}}$	
3638. 032	$1h$	27479. 59	0. 09	<i>a</i> $^2F_{3\frac{1}{2}} - u$ $^2F_{3\frac{1}{2}}$	
3639. 145	5	27471. 18	0. 02	<i>a</i> $^6D_{4\frac{1}{2}} - z$ $^4P_{3\frac{1}{2}}$	
3639. 580	1	27467. 90	0. 14	<i>b</i> $^4G_{5\frac{1}{2}} - v$ $^4H_{4\frac{1}{2}}$	
3640. 086	$15h$	27464. 08	{ 0. 16 0. 08	<i>a</i> $^4F_{3\frac{1}{2}} - v$ $^4F_{3\frac{1}{2}}$ <i>a</i> $^4H_{5\frac{1}{2}} - y$ $^2G_{4\frac{1}{2}}$	
3641. 405	$30h$	27454. 13	0. 01	<i>a</i> $^4F_{4\frac{1}{2}} - v$ $^4F_{4\frac{1}{2}}$	6, 7b
3643. 018	3	27441. 98	-0. 06	<i>a</i> $^4H_{4\frac{1}{2}} - y$ $^2G_{3\frac{1}{2}}$	5
3646. 707	3	27414. 22	-0. 07	<i>a</i> $^6D_{3\frac{1}{2}} - z$ $^4F_{3\frac{1}{2}}$	
3648. 698	6	27399. 26	-0. 03	<i>b</i> $^4G_{5\frac{1}{2}} - v$ $^4H_{5\frac{1}{2}}$	6
3652. 292	$3H$	27372. 30	-0. 08	<i>a</i> $^4F_{2\frac{1}{2}} - v$ $^4F_{2\frac{1}{2}}$	
3652. 510	$1h$	27370. 66	0. 04	<i>a</i> $^4H_{4\frac{1}{2}} - y$ $^2G_{4\frac{1}{2}}$	
3653. 514	2	27363. 14	-0. 07	<i>a</i> $^6D_{2\frac{1}{2}} - z$ $^4F_{1\frac{1}{2}}$	
3653. 581	2	27362. 64	-0. 03	<i>a</i> $^4H_{3\frac{1}{2}} - y$ $^2G_{3\frac{1}{2}}$	
3654. 291	$2h$	27357. 32	-0. 28	<i>b</i> $^4G_{4\frac{1}{2}} - w$ $^2F_{3\frac{1}{2}}$	
3655. 097	$3h$	27351. 29	{ -0. 16 0. 26	<i>a</i> $^4F_{3\frac{1}{2}} - v$ $^4F_{4\frac{1}{2}}$ <i>a</i> $^2F_{3\frac{1}{2}} - u$ $^2F_{3\frac{1}{2}}$	
3657. 906	$20c$	27330. 29	-0. 04	<i>a</i> $^4H_{6\frac{1}{2}} - w$ $^4G_{5\frac{1}{2}}$	5
3660. 404	100	27311. 64	0. 00	<i>b</i> $^4G_{5\frac{1}{2}} - v$ $^4H_{5\frac{1}{2}}$	4
3663. 135	$1h$	27291. 27	0. 02	<i>a</i> $^4H_{3\frac{1}{2}} - y$ $^2G_{4\frac{1}{2}}$	
3663. 373	$2h$	27289. 50	-0. 21	<i>b</i> $^4G_{4\frac{1}{2}} - v$ $^4H_{3\frac{1}{2}}$	
2667. 714	10	27257. 21	-0. 17	<i>b</i> $^4G_{4\frac{1}{2}} - v$ $^4H_{4\frac{1}{2}}$	6
3668. 201	1	27253. 59	0. 01	<i>a</i> $^2H_{5\frac{1}{2}} - w$ $^2G_{4\frac{1}{2}}$	
3668. 547	$1h$	27251. 02	0. 02	<i>b</i> $^4G_{3\frac{1}{2}} - w$ $^2F_{3\frac{1}{2}}$	
3669. 198	4	27246. 18	-0. 07	<i>a</i> $^6D_{1\frac{1}{2}} - z$ $^4F_{1\frac{1}{2}}$	
3669. 398	15	27244. 70	-0. 07	<i>a</i> $^6D_{2\frac{1}{2}} - z$ $^4F_{2\frac{1}{2}}$	
3669. 837	50	27241. 44	-0. 01	<i>a</i> $^6D_{3\frac{1}{2}} - z$ $^4F_{3\frac{1}{2}}$	
3670. 505	100	27236. 48	0. 01	<i>a</i> $^6D_{4\frac{1}{2}} - z$ $^4F_{4\frac{1}{2}}$	6
3672. 037	1	27225. 12	-0. 03	<i>a</i> $^4F_{1\frac{1}{2}} - v$ $^4F_{1\frac{1}{2}}$	
3672. 915	1	27218. 61	-0. 08	<i>a</i> $^4H_{5\frac{1}{2}} - w$ $^4G_{5\frac{1}{2}}$	
3673. 515	2	27214. 16	0. 00	<i>a</i> $^2F_{2\frac{1}{2}} - u$ $^2F_{3\frac{1}{2}}$	
3674. 514	1	27206. 76	0. 02	<i>a</i> $^2F_{3\frac{1}{2}} - v$ $^4G_{3\frac{1}{2}}$	
3675. 670	$10Hl$	27198. 21	-0. 08	<i>b</i> $^4G_{2\frac{1}{2}} - w$ $^2F_{3\frac{1}{2}}$	
3676. 960	80	27188. 67	-0. 24	<i>b</i> $^4G_{4\frac{1}{2}} - v$ $^4H_{5\frac{1}{2}}$	4
3677. 469	1	27184. 90	-0. 05	<i>a</i> $^2H_{4\frac{1}{2}} - w$ $^2G_{3\frac{1}{2}}$	
3677. 716	$4h$	27183. 08	-0. 03	<i>b</i> $^4G_{3\frac{1}{2}} - v$ $^4H_{3\frac{1}{2}}$	
3678. 470	3	27177. 50	-0. 08	<i>a</i> $^6D_{0\frac{1}{2}} - z$ $^4F_{1\frac{1}{2}}$	
3680. 146	20	27165. 12	-0. 08	<i>b</i> $^4G_{5\frac{1}{2}} - x$ $^2G_{4\frac{1}{2}}$	4
3682. 090	60	27150. 79	0. 01	<i>b</i> $^4G_{3\frac{1}{2}} - v$ $^4H_{4\frac{1}{2}}$	
2683. 363	4	27141. 40	-0. 04	<i>a</i> $^4H_{4\frac{1}{2}} - w$ $^4G_{4\frac{1}{2}}$	
3684. 522	20	27132. 87	0. 00	<i>b</i> $^4D_{3\frac{1}{2}} - v$ $^4P_{2\frac{1}{2}}$	4
3684. 866	$20h$	27130. 33	-0. 07	<i>b</i> $^4G_{2\frac{1}{2}} - v$ $^4H_{3\frac{1}{2}}$	
3685. 215	15	27127. 76	-0. 05	<i>a</i> $^6D_{1\frac{1}{2}} - z$ $^4F_{3\frac{1}{2}}$	
3685. 561	7	27125. 22	-0. 09	<i>a</i> $^4H_{4\frac{1}{2}} - w$ $^4G_{5\frac{1}{2}}$	
3689. 097	2	27099. 22	{ 0. 01 0. 10	<i>a</i> $^2F_{3\frac{1}{2}} - 65768$ $^4I_{\frac{1}{2}}$ <i>a</i> $^4D_{1\frac{1}{2}} - x$ $^6F_{0\frac{1}{2}}$	4
3689. 989	$1h$	27092. 67	0. 12	<i>b</i> $^4D_{2\frac{1}{2}} - y$ $^4S_{1\frac{1}{2}}$	
3690. 808	10	27086. 66	-0. 01	<i>a</i> $^4H_{6\frac{1}{2}} - y$ $^4I_{0\frac{1}{2}}$	
3690. 933	$5h$	27085. 74	{ 0. 05 -0. 25	<i>a</i> $^2F_{2\frac{1}{2}} - u$ $^2F_{2\frac{1}{2}}$ <i>b</i> $^4G_{3\frac{1}{2}} - w$ $^2F_{3\frac{1}{2}}$	
3692. 187	$2h$	27076. 54	-0. 02	<i>a</i> $^4D_{3\frac{1}{2}} - y$ $^4F_{2\frac{1}{2}}$	
3692. 817	40	27071. 92	-0. 01	<i>a</i> $^6D_{2\frac{1}{2}} - z$ $^4F_{3\frac{1}{2}}$	4
3693. 426	4	27067. 46	-0. 01	<i>b</i> $^4D_{2\frac{1}{2}} - v$ $^4P_{2\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å Air		K	K		
3693. 671	100	27065. 66	0. 00	$a\ ^4H_{6\frac{1}{2}}—y\ ^4I_{5\frac{1}{2}}$	4
3694. 056	20c	{27062. 84 27062. 40}	{0. 23 −0. 21}	$a\ ^4D_{3\frac{1}{2}}—y\ ^4F_{3\frac{1}{2}}$	{P-B}
3694. 116	2h	27047. 93	−0. 03	$a\ ^4H_{3\frac{1}{2}}—w\ ^4G_{2\frac{1}{2}}$	
3696. 093		27044. 61	−0. 02	$a\ ^4D_{3\frac{1}{2}}—y\ ^4F_{3\frac{1}{2}}$	4
3696. 547	100cw				
3700. 147	8	27018. 29	−0. 29	$b\ ^4G_{4\frac{1}{2}}—x\ ^2G_{3\frac{1}{2}}$	
3700. 300	15	27017. 18	0. 01	$a\ ^4P_{2\frac{1}{2}}—z\ ^4S_{1\frac{1}{2}}$	4
3701. 728	80	27006. 75	−0. 01	$a\ ^6D_{3\frac{1}{2}}—z\ ^4F_{4\frac{1}{2}}$	4
3706. 082	150	26975. 03	0. 00	$a\ ^4H_{5\frac{1}{2}}—y\ ^4I_{6\frac{1}{2}}$	
3706. 663	10	26970. 80	0. 09	$a\ ^4P_{1\frac{1}{2}}—z\ ^4S_{1\frac{1}{2}}$	6, 7b
3708. 148	1h	26960. 00	−0. 04	$a\ ^4F_{2\frac{1}{2}}—y\ ^2F_{3\frac{1}{2}}$	
3708. 870	3	26954. 75	−0. 07	$b\ ^4G_{4\frac{1}{2}}—x\ ^2G_{4\frac{1}{2}}$	
3709. 656	1	26949. 04	0. 00	$b\ ^4D_{0\frac{1}{2}}—v\ ^4P_{1\frac{1}{2}}$	
3709. 831	3	26947. 77	0. 00	$a\ ^2F_{3\frac{1}{2}}—v\ ^2F_{3\frac{1}{2}}$	6
3710. 749	8	26941. 10	−0. 07	$b\ ^4D_{2\frac{1}{2}}—v\ ^4P_{1\frac{1}{2}}$	4
3711. 349	4	26936. 75	−0. 11	$a\ ^4P_{0\frac{1}{2}}—z\ ^4S_{1\frac{1}{2}}$	4
3711. 590	6	26935. 00	−0. 07	$b\ ^4D_{1\frac{1}{2}}—v\ ^4P_{0\frac{1}{2}}$	
3713. 789	6h	26919. 05	−0. 01	$a\ ^4F_{2\frac{1}{2}}—y\ ^2F_{3\frac{1}{2}}$	
3714. 771	1	26911. 93	−0. 05	$b\ ^4G_{3\frac{1}{2}}—x\ ^2G_{3\frac{1}{2}}$	
3715. 046	5h	26909. 94	−0. 03	$a\ ^4F_{1\frac{1}{2}}—y\ ^2F_{2\frac{1}{2}}$	5
3715. 525	4	26906. 47	−0. 24	$a\ ^2I_{5\frac{1}{2}}—x\ ^2H_{4\frac{1}{2}}$	
3718. 129	4	26887. 63	−0. 03	$a\ ^2I_{6\frac{1}{2}}—x\ ^2H_{5\frac{1}{2}}$	
3718. 924	100	26881. 88	0. 01	$a\ ^4H_{4\frac{1}{2}}—y\ ^4I_{3\frac{1}{2}}$	
3720. 908	5	26867. 55	0. 02	$a\ ^4H_{4\frac{1}{2}}—y\ ^4I_{4\frac{1}{2}}$	6
3722. 062	1	26859. 22	−0. 05	$b\ ^4G_{2\frac{1}{2}}—x\ ^2G_{3\frac{1}{2}}$	
3725. 548	2	26834. 08	0. 01	$a\ ^4D_{2\frac{1}{2}}—y\ ^4F_{1\frac{1}{2}}$	
3726. 949	20	26824. 00	−0. 03	$a\ ^4D_{2\frac{1}{2}}—y\ ^4F_{2\frac{1}{2}}$	6
3727. 986	4	26816. 54	−0. 02	$b\ ^4D_{0\frac{1}{2}}—v\ ^4P_{0\frac{1}{2}}$	6
3728. 894	100c	26810. 01	−0. 07	$a\ ^4D_{2\frac{1}{2}}—y\ ^4F_{3\frac{1}{2}}$	4
3729. 523	2Hl	26805. 48	0. 14	$a\ ^4F_{4\frac{1}{2}}—61744_{5\frac{1}{2}}$	
3729. 942	3	26802. 47	−0. 12	$b\ ^4D_{1\frac{1}{2}}—v\ ^4P_{0\frac{1}{2}}$	
3731. 012	10	26794. 79	−0. 06	$a\ ^4H_{6\frac{1}{2}}—x\ ^4H_{5\frac{1}{2}}$	
3731. 938	100	26788. 14	−0. 02	$a\ ^4H_{3\frac{1}{2}}—y\ ^4I_{4\frac{1}{2}}$	5
3733. 643	1h	26775. 91	{ 0. 09 −0. 01	$a\ ^4F_{4\frac{1}{2}}—y\ ^2G_{4\frac{1}{2}}$ $a\ ^4D_{3\frac{1}{2}}—z\ ^4H_{4\frac{1}{2}}$	
3736. 909	50	26752. 53	−0. 07	$a\ ^4H_{6\frac{1}{2}}—x\ ^4H_{5\frac{1}{2}}$	6, 7b
3738. 014	1h	26744. 60	0. 03	$a\ ^4F_{3\frac{1}{2}}—y\ ^2G_{3\frac{1}{2}}$	
3741. 019	10	26723. 11	−0. 07	$a\ ^2H_{5\frac{1}{2}}—v\ ^4H_{6\frac{1}{2}}$	
3742. 269	1H	26714. 19	0. 00	$a\ ^2F_{2\frac{1}{2}}—v\ ^2F_{3\frac{1}{2}}$	
3743. 525	10	26705. 23	−0. 13	$a\ ^4H_{5\frac{1}{2}}—x\ ^4H_{4\frac{1}{2}}$	
3744. 362	2	26699. 26	−0. 09	$a\ ^2H_{4\frac{1}{2}}—v\ ^4H_{5\frac{1}{2}}$	
3746. 623	40	26683. 15	−0. 06	$a\ ^4H_{5\frac{1}{2}}—x\ ^4H_{5\frac{1}{2}}$	6, 7b
3748. 021	8h	26673. 19	0. 04	$a\ ^4F_{3\frac{1}{2}}—y\ ^2G_{4\frac{1}{2}}$	
3748. 332	1	26670. 98	0. 02	$a\ ^4F_{2\frac{1}{2}}—y\ ^2G_{3\frac{1}{2}}$	
3748. 515	7hl	26669. 68	{ 0. 07 0. 02	$a\ ^4F_{3\frac{1}{2}}—z\ ^2F_{3\frac{1}{2}}$ $b\ ^2I_{6\frac{1}{2}}—v\ ^2H_{5\frac{1}{2}}$	
3749. 353	10	26663. 71	−0. 04	$a\ ^4D_{1\frac{1}{2}}—y\ ^4F_{1\frac{1}{2}}$	6
3750. 766	60	26653. 67	−0. 04	$a\ ^4D_{1\frac{1}{2}}—y\ ^4F_{2\frac{1}{2}}$	4
3752. 554	5	26640. 97	0. 01	$a\ ^4H_{5\frac{1}{2}}—x\ ^4H_{6\frac{1}{2}}$	
3753. 303	2h	26635. 66	0. 13	$a\ ^2F_{3\frac{1}{2}}—w\ ^2G_{3\frac{1}{2}}$	
3753. 866	8	26631. 66	−0. 01	$b\ ^4G_{5\frac{1}{2}}—x\ ^2H_{5\frac{1}{2}}$	
3754. 224	5Hw	26629. 12	−0. 29	$z\ ^4P_{1\frac{1}{2}}—f\ ^4D_{0\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å Air		K	K		
3755.385	1Hw	26620.89	0.14	$z\ ^4P_{2\frac{1}{2}}-f\ ^4D_{1\frac{1}{2}}$	
3756.449	5	26613.35	0.04	$a\ ^4H_{4\frac{1}{2}}-x\ ^4H_{3\frac{1}{2}}$	
3756.643	30	26611.98	0.00	$a\ ^4H_{4\frac{1}{2}}-x\ ^4H_{4\frac{1}{2}}$	
3758.912	4h	26595.91	-0.09	$a\ ^4F_{2\frac{1}{2}}-z\ ^2F_{3\frac{1}{2}}$	
3759.354	2h	26592.79	0.11	$a\ ^2F_{3\frac{1}{2}}-w\ ^2G_{4\frac{1}{2}}$	
3759.775	6	26589.81	-0.02	$a\ ^4H_{4\frac{1}{2}}-x\ ^4H_{5\frac{1}{2}}$	
3761.010	5Hw	26581.08	0.20	$z\ ^4P_{0\frac{1}{2}}-f\ ^4D_{0\frac{1}{2}}$	
3761.629	1	26576.70	-0.04	$a\ ^2H_{5\frac{1}{2}}-x\ ^2G_{4\frac{1}{2}}$	
3763.372	40	26564.40	0.00	$a\ ^4D_{0\frac{1}{2}}-y\ ^4F_{1\frac{1}{2}}$	5
3763.650	2h	26562.43	0.02	$a\ ^4F_{1\frac{1}{2}}-z\ ^2F_{2\frac{1}{2}}$	
3766.052	10H	26545.49	0.01	$z\ ^4P_{1\frac{1}{2}}-f\ ^4D_{1\frac{1}{2}}$	
3767.695	20	26533.92	-0.02	$a\ ^4H_{3\frac{1}{2}}-x\ ^4H_{3\frac{1}{2}}$	
3767.876	2	26532.64	0.03	$a\ ^4H_{3\frac{1}{2}}-x\ ^4H_{4\frac{1}{2}}$	
3768.176	10	26530.53	0.02	$a\ ^4F_{4\frac{1}{2}}-w\ ^4G_{5\frac{1}{2}}$	
3770.226	1H?	26516.11	-0.15	$a\ ^4D_{2\frac{1}{2}}-z\ ^4H_{3\frac{1}{2}}$	
3771.439	15	26507.58	0.00	$b\ ^2I_{6\frac{1}{2}}-x\ ^2I_{5\frac{1}{2}}$	6, 7b
3772.955	10H	26496.93	-0.02	$z\ ^4P_{0\frac{1}{2}}-f\ ^4D_{1\frac{1}{2}}$	
3773.858	10	26490.58	0.00	$b\ ^2I_{5\frac{1}{2}}-x\ ^2I_{5\frac{1}{2}}$	6, 7b
3774.669	20h	26484.89	0.07	$z\ ^4P_{2\frac{1}{2}}-f\ ^4D_{2\frac{1}{2}}$	
3776.289	2h	26473.53	0.11	$a\ ^2G_{4\frac{1}{2}}-w\ ^2H_{3\frac{1}{2}}$	
3776.537	40	26471.79	0.00	$a\ ^6D_{4\frac{1}{2}}-z\ ^6F_{3\frac{1}{2}}$	
3781.192	1h	26439.20	-0.03	$a\ ^4F_{3\frac{1}{2}}-w\ ^4G_{3\frac{1}{2}}$	
3783.297	2	26424.49	-0.26	$b\ ^4G_{4\frac{1}{2}}-x\ ^2H_{4\frac{1}{2}}$	
3784.233	1	26417.96	-0.01	$a\ ^4H_{5\frac{1}{2}}-z\ ^2G_{4\frac{1}{2}}$	
3785.422	30h	26409.66	0.11	$z\ ^4P_{1\frac{1}{2}}-f\ ^4D_{2\frac{1}{2}}$	4
3786.836	3	26399.80	-0.03	$a\ ^2I_{5\frac{1}{2}}-z\ ^2I_{4\frac{1}{2}}$	7b
3787.446	1	26395.55	0.03	$a\ ^4H_{4\frac{1}{2}}-z\ ^2G_{3\frac{1}{2}}$	
3789.757	1h	26379.45	-0.19	$a\ ^4D_{1\frac{1}{2}}-v\ ^6I_{1\frac{1}{2}}$	
3790.214	200h	26376.27	-0.02	$a\ ^6D_{4\frac{1}{2}}-z\ ^6F_{4\frac{1}{2}}$	6
3791.081	2h	26370.22	0.03	$a\ ^2F_{2\frac{1}{2}}-w\ ^2G_{3\frac{1}{2}}$	
3794.497	2	26346.50	-0.04	$a\ ^2G_{3\frac{1}{2}}-w\ ^2H_{3\frac{1}{2}}$	
3799.256	60	26313.50	0.00	$a\ ^6D_{3\frac{1}{2}}-z\ ^6F_{2\frac{1}{2}}$	5
3800.551	60h	26304.53	0.06	$z\ ^4P_{3\frac{1}{2}}-f\ ^4D_{3\frac{1}{2}}$	4
3801.901	80	26295.19	0.00	$a\ ^4G_{3\frac{1}{2}}-z\ ^4G_{3\frac{1}{2}}$	6, 7b
3802.137	1	26293.56	-0.04	$a\ ^2I_{6\frac{1}{2}}-w\ ^4H_{5\frac{1}{2}}$	
3803.073	2	26287.09	0.02	$a\ ^4F_{4\frac{1}{2}}-y\ ^4I_{3\frac{1}{2}}$	
3804.021	6	26280.54	0.01	$a\ ^4G_{5\frac{1}{2}}-z\ ^4G_{4\frac{1}{2}}$	
3804.752	20c	26275.49	-0.01	$a\ ^4G_{4\frac{1}{2}}-z\ ^4G_{3\frac{1}{2}}$	
3806.715	2000h	26261.94	0.00	$a\ ^6D_{4\frac{1}{2}}-z\ ^6F_{5\frac{1}{2}}$	4
3806.881	10	26260.80	-0.04	$a\ ^4G_{4\frac{1}{2}}-z\ ^4G_{3\frac{1}{2}}$	
3807.203	10	26258.58	0.05	$a\ ^4G_{3\frac{1}{2}}-z\ ^4G_{3\frac{1}{2}}$	
3808.506	10	26249.59	0.02	$a\ ^4G_{2\frac{1}{2}}-z\ ^4G_{3\frac{1}{2}}$	
3809.146	5	26245.18	0.00	$a\ ^4G_{4\frac{1}{2}}-z\ ^4G_{3\frac{1}{2}}$	
3809.485	10	26242.85	-0.02	$a\ ^4G_{3\frac{1}{2}}-z\ ^4G_{3\frac{1}{2}}$	
3809.593	500h	26242.10	0.02	$a\ ^6D_{3\frac{1}{2}}-z\ ^6F_{3\frac{1}{2}}$	6
3810.679	40	26234.62	0.03	$a\ ^4G_{2\frac{1}{2}}-z\ ^4G_{2\frac{1}{2}}$	
3811.659	6	26227.88	-0.01	$a\ ^4G_{3\frac{1}{2}}-z\ ^4G_{3\frac{1}{2}}$	
3813.024	1	26218.49	0.09	$a\ ^2F_{3\frac{1}{2}}-v\ ^4H_{3\frac{1}{2}}$	
3816.746	100	26192.92	-0.01	$a\ ^6D_{2\frac{1}{2}}-z\ ^6F_{1\frac{1}{2}}$	5, C
3820.081	1h	26170.06	0.00	$a\ ^4F_{3\frac{1}{2}}-y\ ^4I_{3\frac{1}{2}}$	
3820.903	1h	26164.42	0.14	$b\ ^4P_{2\frac{1}{2}}-w\ ^4D_{1\frac{1}{2}}$	
3823.508	1500h	26146.60	0.02	$a\ ^6D_{3\frac{1}{2}}-z\ ^6F_{4\frac{1}{2}}$	4
3823.891	100h	26143.98	0.00	$a\ ^6D_{2\frac{1}{2}}-z\ ^6F_{2\frac{1}{2}}$	
3826.617	5h	26125.36	0.00	$z\ ^6P_{3\frac{1}{2}}-g\ ^6S_{2\frac{1}{2}}$	
3826.734	1h	26124.55	0.02	$a\ ^2I_{6\frac{1}{2}}-z\ ^2H_{5\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o-e$	Term designation	Zeeman type
Air		K	K		
3827. 890	10H	26116. 67	0. 04	$z \ ^6P_{\frac{5}{2}} - g \ ^6S_{\frac{1}{2}}$	
3829. 679	100	26104. 47	0. 29	$a \ ^6D_{\frac{1}{2}} - z \ ^6F_{\frac{1}{2}}$	
3829. 986	8h	26102. 38	-0. 05	$z \ ^6P_{\frac{3}{2}} - g \ ^6S_{\frac{1}{2}}$	
3833. 865	500	26075. 97	0. 00	$a \ ^6D_{\frac{1}{2}} - z \ ^6F_{\frac{1}{2}}$	6, C
3834. 368	1000	26072. 55	-0. 01	$a \ ^6D_{\frac{5}{2}} - z \ ^6F_{\frac{3}{2}}$	4
3836. 908	1h	26055. 29	-0. 10	$b \ ^4G_{\frac{1}{2}} - x \ ^2D_{\frac{5}{2}}$	
3838. 191	2h	26046. 58	-0. 09	$a \ ^2H_{\frac{5}{2}} - x \ ^2H_{\frac{3}{2}}$	
3839. 779	500h	26035. 81	0. 30	$a \ ^6D_{\frac{3}{2}} - z \ ^6F_{\frac{1}{2}}$	6, C
3841. 074	600h	26027. 03	0. 01	$a \ ^6D_{\frac{1}{2}} - z \ ^6F_{\frac{1}{2}}$	4, C
3843. 988	500h	26007. 30	0. 00	$a \ ^6D_{\frac{1}{2}} - z \ ^6F_{\frac{1}{2}}$	4, C
3845. 009	7h	26000. 40	0. 13	$a \ ^4F_{\frac{5}{2}} - w \ ^4F_{\frac{3}{2}}$	
3845. 795	1	25995. 08	0. 05	$a \ ^4F_{\frac{5}{2}} - x \ ^4H_{\frac{5}{2}}$	
3847. 234	1h	25985. 36	-0. 03	$a \ ^2F_{\frac{5}{2}} - v \ ^4H_{\frac{3}{2}}$	
3846. 046	1	25979. 88	0. 28	$a \ ^2F_{\frac{3}{2}} - x \ ^2G_{\frac{3}{2}}$	
3850. 380	1h	25964. 12	0. 02	$a \ ^4F_{\frac{3}{2}} - w \ ^4F_{\frac{3}{2}}$	
3852. 512	6h	25949. 76	-0. 06	$a \ ^2G_{\frac{5}{2}} - 66981 \ ^3S_{\frac{1}{2}}$	
3853. 476	30	25943. 27	-0. 03	$b \ ^4G_{\frac{5}{2}} - w \ ^4H_{\frac{5}{2}}$	4
3854. 674	1	25935. 17	-0. 02	$a \ ^2H_{\frac{5}{2}} - x \ ^2H_{\frac{3}{2}}$	
3855. 114	4h	25932. 24	-0. 03	$b \ ^4P_{\frac{1}{2}} - z \ ^2D_{\frac{5}{2}}$	
3856. 539	50	25922. 66	0. 11	$a \ ^4P_{\frac{3}{2}} - y \ ^4D_{\frac{3}{2}}$	4
3857. 280	1	25917. 68	-0. 19	$b \ ^4G_{\frac{1}{2}} - z \ ^2H_{\frac{3}{2}}$	
3857. 563	1h	25915. 78	{-0. 06 -0. 06}	$a \ ^4F_{\frac{3}{2}} - x \ ^4H_{\frac{3}{2}}$ $a \ ^2F_{\frac{3}{2}} - x \ ^2G_{\frac{1}{2}}$	
3857. 753	1	25914. 51	0. 00	$a \ ^4F_{\frac{1}{2}} - x \ ^4H_{\frac{1}{2}}$	
3858. 749	5	25907. 82	0. 15	$a \ ^4P_{\frac{1}{2}} - y \ ^4D_{\frac{3}{2}}$	
3859. 397	1	25903. 47	0. 03	$a \ ^4G_{\frac{5}{2}} - x \ ^6F_{\frac{5}{2}}$	
3860. 258	3h	25897. 69	0. 09	$a \ ^4F_{\frac{5}{2}} - w \ ^4F_{\frac{3}{2}}$	
3862. 320	1h	25883. 86	0. 11	$a \ ^4G_{\frac{1}{2}} - x \ ^6F_{\frac{5}{2}}$	
3865. 672	20	25861. 42	0. 21	$a \ ^4P_{\frac{1}{2}} - y \ ^4D_{\frac{5}{2}}$	
3866. 574	2	25855. 39	0. 20	$a \ ^4P_{\frac{1}{2}} - y \ ^4D_{\frac{3}{2}}$	
3868. 535	1	25842. 28	0. 05	$a \ ^4F_{\frac{3}{2}} - x \ ^4H_{\frac{3}{2}}$	
3870. 822	4	25827. 01	-0. 22	$b \ ^4G_{\frac{1}{2}} - w \ ^4H_{\frac{5}{2}}$	
3871. 345	1H	25823. 52	0. 00	$a \ ^2G_{\frac{1}{2}} - u \ ^4F_{\frac{1}{2}}$	
3871. 671	6h	25821. 34	0. 00	$a \ ^4P_{\frac{1}{2}} - y \ ^4D_{\frac{5}{2}}$	
2871. 953	2	25819. 47	0. 00	$a \ ^4P_{\frac{1}{2}} - y \ ^4D_{\frac{3}{2}}$	
3872. 127	10	25818. 31	-0. 20	$b \ ^4G_{\frac{1}{2}} - y \ ^2H_{\frac{5}{2}}$	
3873. 200	10	25811. 16	-0. 11	$b \ ^4G_{\frac{3}{2}} - z \ ^2H_{\frac{3}{2}}$	
3874. 743	1h	25800. 87	0. 15	$a \ ^4F_{\frac{1}{2}} - z \ ^2G_{\frac{3}{2}}$ ?	
3876. 712	3	25787. 77	-0. 05	$a \ ^4F_{\frac{3}{2}} - w \ ^4F_{\frac{3}{2}}$	
3878. 155	5h	25778. 18	-0. 06	$a \ ^2G_{\frac{3}{2}} - 67008 \ ^3S_{\frac{1}{2}}$	
3883. 249	20	25744. 36	0. 10	$b \ ^2I_{\frac{5}{2}} - z \ ^2K_{\frac{5}{2}}$	4
3887. 380	2	25717. 00	-0. 29	$b \ ^4G_{\frac{1}{2}} - y \ ^2H_{\frac{3}{2}}$	
3888. 841	7	25707. 35	-0. 04	$b \ ^4G_{\frac{3}{2}} - w \ ^4H_{\frac{3}{2}}$	
3889. 461	20	25703. 25	0. 00	$b \ ^2I_{\frac{5}{2}} - z \ ^2K_{\frac{3}{2}}$	
3891. 624	5	25688. 96	-0. 04	$a \ ^4H_{\frac{3}{2}} - z \ ^2I_{\frac{3}{2}}$	
3892. 621	15	25682. 38	0. 05	$a \ ^4P_{\frac{3}{2}} - x \ ^6D_{\frac{3}{2}, \frac{1}{2}}$	
3893. 199	1	25678. 57	-0. 04	$b \ ^4P_{\frac{1}{2}} - w \ ^4D_{\frac{3}{2}}$	
3894. 714	60	25668. 58	0. 02	$a \ ^4P_{\frac{3}{2}} - x \ ^6D_{\frac{3}{2}}$	4
3896. 339	20	25657. 87	{-0. 29 -0. 29}	$b \ ^4G_{\frac{1}{2}} - z \ ^2H_{\frac{3}{2}}$ $b \ ^4G_{\frac{3}{2}} - x \ ^2F_{\frac{3}{2}}$	4
3896. 743	2h	25655. 21	{-0. 10 -0. 09}	$b \ ^4P_{\frac{1}{2}} - v \ ^4D_{\frac{3}{2}}$ $a \ ^4F_{\frac{1}{2}} - w \ ^4F_{\frac{3}{2}}$	
3898. 368	50c	25644. 52	-0. 13	$b \ ^4P_{\frac{3}{2}} - v \ ^4D_{\frac{3}{2}}$	4

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o - e$	Term designation	Zeeman type
Å		<i>K</i>	<i>K</i>		
Air					
3899. 336	10	25638. 15	-0. 13	<i>b</i> $^4P_{1\frac{1}{2}} - z$ $^2D_{2\frac{1}{2}}$	4
3899. 620	30	25636. 29	0. 42	<i>a</i> $^4P_{1\frac{1}{2}} - x$ $^6D_{2\frac{1}{2}}, 1\frac{1}{2}$	
3903. 525	10	25610. 64	-0. 05	<i>b</i> $^4G_{3\frac{1}{2}} - y$ $^2H_{4\frac{1}{2}}$	
3904. 328	20	25605. 37	-0. 15	<i>b</i> $^4G_{2\frac{1}{2}} - w$ $^4H_{3\frac{1}{2}}$	5
3904. 852	15	25601. 94	-0. 08	<i>a</i> $^4P_{0\frac{1}{2}} - x$ $^6D_{1\frac{1}{2}}$	P-B
3904. 967	15	25601. 18	-0. 07	<i>a</i> $^4P_{0\frac{1}{2}} - x$ $^6D_{0\frac{1}{2}}$	P-B
3905. 237	5h	25599. 42	-0. 02	<i>a</i> $^2G_{1\frac{1}{2}} - v$ $^2G_{1\frac{1}{2}}$	6, 7b
3907. 815	1	25582. 53	-0. 10	<i>b</i> $^4G_{3\frac{1}{2}} - 63319\frac{1}{2}$	
3909. 795	3H	25569. 57	-0. 03	<i>b</i> $^4D_{3\frac{1}{2}} - 55923\frac{1}{2}$	
3910. 222	5H	25566. 78	0. 00	<i>z</i> $^4P_{2\frac{1}{2}} - i$ $^6D_{1\frac{1}{2}}$	
3911. 144	20hw	25560. 75	-0. 05	<i>z</i> $^4P_{2\frac{1}{2}} - e$ $^4D_{2\frac{1}{2}}$	
3911. 425	20c	25558. 92	-0. 04	<i>b</i> $^4P_{2\frac{1}{2}} - u$ $^4P_{1\frac{1}{2}}$	6, 7b
3912. 553	1	25551. 55	-0. 01	<i>b</i> $^4G_{3\frac{1}{2}} - x$ $^2F_{3\frac{1}{2}}$	
3912. 754	5	25550. 24	-0. 14	<i>b</i> $^4P_{0\frac{1}{2}} - z$ $^2D_{1\frac{1}{2}}$	4
3914. 210	5Hlwd	25540. 73	-0. 38	<i>z</i> $^4P_{0\frac{1}{2}} - i$ $^6D_{0\frac{1}{2}}$	
3916. 407	6h	25526. 40	0. 00	<i>b</i> $^4P_{1\frac{1}{2}} - w$ $^4D_{1\frac{1}{2}}$	6
3916. 601	10Hw	25525. 14	-0. 07	<i>z</i> $^4P_{1\frac{1}{2}} - e$ $^4D_{1\frac{1}{2}}$	
3918. 319	60c	25513. 95	{ -0. 11 -0. 07	<i>b</i> $^4P_{2\frac{1}{2}} - w$ $^4D_{3\frac{1}{2}}$ <i>a</i> $^4H_{6\frac{1}{2}} - x$ $^4G_{5\frac{1}{2}}$	4
3919. 332	3	25507. 36	-0. 16	<i>a</i> $^2G_{3\frac{1}{2}} - v$ $^2G_{3\frac{1}{2}}$	6, 7b
3920. 657	1	25498. 74	-0. 11	<i>b</i> $^4G_{2\frac{1}{2}} - x$ $^2F_{3\frac{1}{2}}$	
3921. 766	30Hw	25491. 52	0. 01	<i>z</i> $^4P_{0\frac{1}{2}} - i$ $^6D_{1\frac{1}{2}}$	P-B
3922. 066	10H	25489. 57	-0. 07	<i>z</i> $^4P_{2\frac{1}{2}} - i$ $^6D_{2\frac{1}{2}}$	P-B
3922. 681	40Hw	25485. 58	0. 05	<i>z</i> $^4P_{1\frac{1}{2}} - e$ $^4D_{2\frac{1}{2}}$	
3923. 325	30	25481. 39	-0. 03	<i>a</i> $^4H_{5\frac{1}{2}} - x$ $^4G_{4\frac{1}{2}}$	4
3924. 075	40H	25476. 52	-0. 16	<i>z</i> $^4P_{0\frac{1}{2}} - e$ $^4D_{1\frac{1}{2}}$	
3925. 912	4	25464. 60	-0. 14	<i>b</i> $^4P_{2\frac{1}{2}} - x$ $^4F_{3\frac{1}{2}}$	4
3926. 476	100Hw	25460. 95	0. 02	<i>z</i> $^4P_{2\frac{1}{2}} - e$ $^4D_{3\frac{1}{2}}$	
3928. 314	6	25449. 03	-0. 12	<i>a</i> $^2H_{5\frac{1}{2}} - w$ $^4H_{5\frac{1}{2}}$	6
3929. 248	30Hw	25443. 02	0. 04	<i>z</i> $^4P_{0\frac{1}{2}} - i$ $^6D_{1\frac{1}{2}}$	
3929. 662	20	25440. 30	-0. 11	<i>a</i> $^4H_{4\frac{1}{2}} - x$ $^4G_{3\frac{1}{2}}$	4
3931. 517	10	25428. 30	-0. 01	<i>a</i> $^2H_{4\frac{1}{2}} - z$ $^2H_{4\frac{1}{2}}$	6, 7b
3933. 666	50Hw	25414. 42	0. 05	<i>z</i> $^4P_{1\frac{1}{2}} - i$ $^6D_{2\frac{1}{2}}$	
3935. 544	10	25402. 28	-0. 10	<i>a</i> $^4H_{5\frac{1}{2}} - x$ $^4G_{5\frac{1}{2}}$	6
3936. 766	30	25394. 40	-0. 03	<i>a</i> $^4H_{3\frac{1}{2}} - x$ $^4G_{2\frac{1}{2}}$	5
3937. 763	10	25387. 97	-0. 07	<i>a</i> $^4H_{4\frac{1}{2}} - x$ $^4G_{4\frac{1}{2}}$	6
3941. 951	7	25360. 99	-0. 05	<i>a</i> $^4H_{3\frac{1}{2}} - x$ $^4G_{3\frac{1}{2}}$	
3942. 881	50Hwl	25355. 01	-0. 05	<i>z</i> $^4P_{2\frac{1}{2}} - i$ $^6D_{3\frac{1}{2}}$	4
3943. 719	1	25349. 63	-0. 14	<i>b</i> $^4G_{3\frac{1}{2}} - x$ $^2F_{3\frac{1}{2}}$	
3951. 977	20	25296. 66	-0. 06	<i>b</i> $^4P_{0\frac{1}{2}} - w$ $^4D_{0\frac{1}{2}}$	6
3952. 842	100	25291. 12	0. 01	<i>b</i> $^4P_{2\frac{1}{2}} - u$ $^4P_{2\frac{1}{2}}$	6
3954. 579	10	25280. 01	-0. 07	<i>a</i> $^2H_{5\frac{1}{2}} - z$ $^2H_{5\frac{1}{2}}$	6
3955. 314	1	25275. 31	0. 04	<i>a</i> $^2H_{4\frac{1}{2}} - w$ $^4H_{3\frac{1}{2}}$	
3958. 603	1h	25254. 32	-0. 03	<i>a</i> $^2H_{4\frac{1}{2}} - 63374\frac{1}{2}$	
3959. 138	1	25250. 90	0. 18	<i>e</i> $^6S_{2\frac{1}{2}} - 66654\frac{1}{2}$	
3962. 776	1	25227. 73	0. 00	<i>a</i> $^2H_{4\frac{1}{2}} - y$ $^2H_{4\frac{1}{2}}$	
3972. 077	1	25168. 65	{ 0. 05 0. 05	<i>a</i> $^2H_{4\frac{1}{2}} - z$ $^2H_{3\frac{1}{2}}$ <i>a</i> $^2H_{4\frac{1}{2}} - x$ $^2F_{3\frac{1}{2}}$	
3975. 880	40	25144. 58	0. 07	<i>b</i> $^4P_{0\frac{1}{2}} - w$ $^4D_{1\frac{1}{2}}$	4
3977. 076	50	25137. 02	0. 04	<i>b</i> $^4P_{1\frac{1}{2}} - w$ $^4D_{2\frac{1}{2}}$	4
3978. 781	2h	25126. 24	0. 00	<i>a</i> $^4H_{4\frac{1}{2}} - v$ $^4D_{3\frac{1}{2}}$	
3980. 142	10	25117. 65	0. 03	<i>a</i> $^2G_{4\frac{1}{2}} - u$ $^2F_{3\frac{1}{2}}$	4

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o - e$	Term designation	Zeeman type
Å Air		K	K		
3982. 164	30	25104. 90	-0. 02	$b\ ^4P_{1\frac{1}{2}} - u\ ^4P_{0\frac{1}{2}}$	
3982. 576	100	25102. 30	0. 07	$a\ ^4G_{2\frac{1}{2}} - y\ ^4F_{1\frac{1}{2}}$	P-B
3982. 900	40	25100. 26	-0. 02	$e\ ^6S_{2\frac{1}{2}} - 66504\ ^4P_{1\frac{1}{2}}$	
3984. 172	20	25092. 25	0. 06	$a\ ^4G_{2\frac{1}{2}} - y\ ^4F_{2\frac{1}{2}}$	
3985. 236	100	25085. 55	0. 06	$a\ ^4G_{3\frac{1}{2}} - y\ ^4F_{2\frac{1}{2}}$	P-B
3986. 377	2	25078. 34	0. 10	$a\ ^4G_{2\frac{1}{2}} - y\ ^4F_{3\frac{1}{2}}$	
3986. 822	200	25075. 57	0. 01	$a\ ^4G_{5\frac{1}{2}} - y\ ^4F_{4\frac{1}{2}}$	4
3987. 092	100	25073. 87	0. 02	$a\ ^4G_{4\frac{1}{2}} - y\ ^4F_{3\frac{1}{2}}$	4
3987. 455	20	25071. 59	0. 05	$a\ ^4G_{3\frac{1}{2}} - y\ ^4F_{3\frac{1}{2}}$	P-B
3988. 666	8	25063. 98	-0. 01	$b\ ^4P_{1\frac{1}{2}} - v\ ^4D_{0\frac{1}{2}}$	P-B
3989. 699	1	25057. 49	-0. 04	$a\ ^4H_{3\frac{1}{2}} - v\ ^4D_{2\frac{1}{2}}$	
3989. 952	30	25055. 90	0. 03	$a\ ^4G_{4\frac{1}{2}} - y\ ^4F_{4\frac{1}{2}}$	6
3990. 737	1	25050. 97	0. 04	$b\ ^4D_{3\frac{1}{2}} - w\ ^4P_{2\frac{1}{2}}$	
3991. 596	20	25045. 58	0. 12	$b\ ^4D_{0\frac{1}{2}} - w\ ^4P_{0\frac{1}{2}}$	
3993. 858	6	25031. 40	-0. 09	$b\ ^4D_{1\frac{1}{2}} - w\ ^4P_{0\frac{1}{2}}$	P-B
3995. 012	1h	25024. 17	0. 06	$b\ ^4G_{3\frac{1}{2}} - w\ ^6D_{2\frac{1}{2}}?$	
3996. 101	5Hs	25017. 34	-0. 09	$b\ ^4P_{1\frac{1}{2}} - v\ ^4D_{2\frac{1}{2}}$	4
3997. 771	3h	25006. 89	-0. 03	$a\ ^4H_{5\frac{1}{2}} - x\ ^4F_{4\frac{1}{2}}$	
3999. 573	1h	24995. 63	-0. 02	$a\ ^4H_{4\frac{1}{2}} - w\ ^4D_{3\frac{1}{2}}$	
4001. 190	15	24985. 52	-0. 01	$b\ ^4D_{2\frac{1}{2}} - w\ ^4P_{2\frac{1}{2}}$	P-B
4002. 169	15	24979. 42	-0. 01	$b\ ^4D_{1\frac{1}{2}} - w\ ^4P_{2\frac{1}{2}}$	P-B
4002. 559	1	24976. 98	0. 05	$a\ ^4F_{1\frac{1}{2}} - w\ ^4D_{0\frac{1}{2}}$	
4003. 258	20Hl	24972. 63	0. 05	$b\ ^4G_{5\frac{1}{2}} - v\ ^4F_{4\frac{1}{2}}$	
4005. 775	1	24956. 93	0. 01	$b\ ^4D_{0\frac{1}{2}} - w\ ^4P_{1\frac{1}{2}}$	
4007. 041	10	24949. 04	-0. 01	$b\ ^4D_{2\frac{1}{2}} - w\ ^4P_{1\frac{1}{2}}$	P-B
4008. 022	20	24942. 94	-0. 01	$b\ ^4D_{1\frac{1}{2}} - w\ ^4P_{1\frac{1}{2}}$	P-B
4011. 535	30	24921. 09	0. 01	$b\ ^4P_{1\frac{1}{2}} - u\ ^4P_{1\frac{1}{2}}$	6
4011. 913	10h	24918. 75	-0. 05	$a\ ^2G_{3\frac{1}{2}} - u\ ^2F_{3\frac{1}{2}}$	6
4012. 761	2	24913. 48	-0. 06	$a\ ^4H_{4\frac{1}{2}} - x\ ^4F_{4\frac{1}{2}}$	
4016. 671	5	24889. 23	0. 05	$a\ ^4F_{4\frac{1}{2}} - z\ ^2I_{5\frac{1}{2}}$	4
4018. 106	1000h	24880. 34	-0. 01	$a\ ^6D_{4\frac{1}{2}} - z\ ^6D_{3\frac{1}{2}}$	4
4018. 583	2h	24877. 39	-0. 05	$a\ ^2G_{4\frac{1}{2}} - v\ ^4G_{4\frac{1}{2}}$	
4020. 072	10	24868. 17	0. 00	$b\ ^4D_{0\frac{1}{2}} - x\ ^4D_{1\frac{1}{2}}$	5
4021. 354	2	24860. 25	-0. 05	$b\ ^4D_{2\frac{1}{2}} - x\ ^4D_{1\frac{1}{2}}$	
4022. 335	2h	24854. 18	{-0. 02 {-0. 04}	$b\ ^4D_{1\frac{1}{2}} - x\ ^4D_{1\frac{1}{2}}a\ ^2F_{3\frac{1}{2}} - 63523\ ^2D_{2\frac{1}{2}}$	
4023. 719	1	24845. 63	0. 02	$a\ ^4F_{4\frac{1}{2}} - x\ ^4G_{3\frac{1}{2}}$	
4025. 938	4	24831. 94	-0. 02	$b\ ^4D_{3\frac{1}{2}} - x\ ^4D_{2\frac{1}{2}}$	5
4026. 437	80	24828. 86	0. 00	$a\ ^4G_{5\frac{1}{2}} - z\ ^4H_{6\frac{1}{2}}$	4
4028. 595	5H	24815. 56	-0. 01	$a\ ^4G_{5\frac{1}{2}} - z\ ^4H_{5\frac{1}{2}}$	6
4030. 755	20000Rw	24802. 26	0. 01	$a\ ^6S_{2\frac{1}{2}} - z\ ^6P_{3\frac{1}{2}}$	4
4031. 791	100	24795. 89	0. 01	$a\ ^4G_{4\frac{1}{2}} - z\ ^4H_{5\frac{1}{2}}$	
4033. 068	15000Rw	24788. 04	-0. 01	$a\ ^6S_{2\frac{1}{2}} - z\ ^6P_{3\frac{1}{2}}$	6
4033. 587	4	24784. 85	0. 00	$a\ ^4G_{3\frac{1}{2}} - z\ ^4H_{4\frac{1}{2}}$	
4033. 652	3	24784. 45	0. 03	$a\ ^4G_{2\frac{1}{2}} - z\ ^4H_{3\frac{1}{2}}$	
4034. 485	10000Rw	24779. 33	0. 01	$a\ ^6S_{2\frac{1}{2}} - z\ ^6P_{1\frac{1}{2}}$	4
4035. 729	1000	24771. 70	-0. 03	$a\ ^6D_{3\frac{1}{2}} - z\ ^6D_{2\frac{1}{2}}$	4
4036. 244	4	24768. 51	-0. 22	$a\ ^2P_{1\frac{1}{2}} - z\ ^2P_{1\frac{1}{2}}$	
4036. 562	5	24766. 58	0. 02	$b\ ^4D_{2\frac{1}{2}} - x\ ^4D_{2\frac{1}{2}}$	
4037. 561	5	24760. 45	-0. 01	$b\ ^4D_{1\frac{1}{2}} - x\ ^4D_{2\frac{1}{2}}$	
4038. 728	20	24753. 30	-0. 01	$b\ ^4D_{3\frac{1}{2}} - x\ ^4D_{3\frac{1}{2}}$	6, 7b
4039. 250	1Hl	24750. 10	-0. 04	$b\ ^4G_{3\frac{1}{2}} - v\ ^4F_{2\frac{1}{2}}$	
4040. 424	2	24742. 95	0. 01	$a\ ^4F_{3\frac{1}{2}} - x\ ^4G_{3\frac{1}{2}}$	
4041. 357	2000h	24737. 20	0. 01	$a\ ^6D_{4\frac{1}{2}} - z\ ^6D_{4\frac{1}{2}}$	6, 7b
4043. 682	1h	24722. 98	-0. 05	$b\ ^4P_{0\frac{1}{2}} - u\ ^4P_{0\frac{1}{2}}$	
4045. 115	50	24714. 22	0. 02	$a\ ^4F_{4\frac{1}{2}} - x\ ^4G_{5\frac{1}{2}}$	4

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o-c$	Term designation	Zeeman type
Å Air		<i>K</i>	<i>K</i>		
4045. 203	50	24713. 68	-0. 04	<i>a</i> $^4H_{6\frac{1}{2}} - z$ $^4I_{7\frac{1}{2}}$	4
4046. 711	1 <i>h</i>	24704. 47	-0. 04	<i>a</i> $^4H_{6\frac{1}{2}} - z$ $^4I_{6\frac{1}{2}}$	
4046. 996	3	24702. 73	0. 01	<i>a</i> $^4F_{2\frac{1}{2}} - x$ $^4G_{3\frac{1}{2}}$	6
4048. 747	1000 <i>h</i>	24692. 05	0. 00	<i>a</i> $^6D_{2\frac{1}{2}} - z$ $^6D_{1\frac{1}{2}}$	4, C
4048. 998	40	24690. 52	-0. 05	<i>a</i> $^4F_{3\frac{1}{2}} - x$ $^4G_{4\frac{1}{2}}$	4
4049. 423	1 <i>h</i>	24687. 93	0. 02	<i>b</i> $^4D_{2\frac{1}{2}} - x$ $^4D_{3\frac{1}{2}}$	
4050. 306	1	24682. 54	-0. 09	<i>b</i> $^4P_{0\frac{1}{2}} - v$ $^4D_{1\frac{1}{2}}$	
4051. 255	2 <i>h</i>	24676. 76	-0. 03	<i>a</i> $^4D_{2\frac{1}{2}} - y$ $^6F_{3\frac{1}{2}}$	
4052. 476	50	24669. 33	0. 00	<i>a</i> $^4F_{2\frac{1}{2}} - x$ $^4G_{3\frac{1}{2}}$	4
4055. 215	20	24652. 67	0. 02	<i>a</i> $^4F_{1\frac{1}{2}} - x$ $^4G_{2\frac{1}{2}}$	5
4055. 548	1000 <i>h</i>	24650. 64	0. 00	<i>a</i> $^6D_{3\frac{1}{2}} - z$ $^6D_{2\frac{1}{2}}$	6, 7 <i>b</i>
4057. 954	100 <i>h</i> <i>l</i>	24636. 03	0. 00	<i>z</i> $^6P_{1\frac{1}{2}} - f$ $^6S_{2\frac{1}{2}}$	4
4058. 936	500	24630. 06	-0. 02	<i>a</i> $^6D_{1\frac{1}{2}} - z$ $^6D_{0\frac{1}{2}}$	4, C
4059. 388	150 <i>h</i> <i>l</i>	24627. 32	0. 02	<i>z</i> $^6P_{2\frac{1}{2}} - f$ $^6S_{2\frac{1}{2}}$	6
4061. 737	200 <i>h</i> <i>l</i>	24613. 09	-0. 01	<i>z</i> $^6P_{3\frac{1}{2}} - f$ $^6S_{2\frac{1}{2}}$	4
4063. 530	400	24602. 22	0. 01	<i>a</i> $^6D_{2\frac{1}{2}} - z$ $^6D_{2\frac{1}{2}}$	6, 7 <i>b</i>
4065. 083	100	24592. 82	-0. 05	<i>a</i> $^4H_{5\frac{1}{2}} - z$ $^4I_{6\frac{1}{2}}$	
4066. 235	10	24585. 86	-0. 03	<i>a</i> $^2G_{4\frac{1}{2}} - v$ $^2F_{3\frac{1}{2}}$	5
4067. 238	5	24579. 79	0. 00	<i>a</i> $^2I_{6\frac{1}{2}} - 61744^{\circ}5\frac{1}{2}$	
4068. 011	100	24575. 10	0. 01	<i>a</i> $^6D_{1\frac{1}{2}} - z$ $^6D_{0\frac{1}{2}}$	6, 7 <i>b</i>
4070. 280	200	24561. 42	0. 01	<i>a</i> $^6D_{0\frac{1}{2}} - z$ $^6D_{0\frac{1}{2}}$	6, 7C
4070. 682	2 <i>h</i>	24559. 00	0. 02	<i>a</i> $^4F_{3\frac{1}{2}} - w$ $^4D_{2\frac{1}{2}}$	
4071. 949	1	24551. 36	-0. 03	<i>a</i> $^4D_{1\frac{1}{2}} - y$ $^6F_{3\frac{1}{2}}$	
4073. 976	10	24539. 14	-0. 05	<i>b</i> $^4P_{0\frac{1}{2}} - u$ $^4P_{1\frac{1}{2}}$	4
4075. 251	40 <i>h</i>	24531. 46	0. 02	<i>a</i> $^4F_{4\frac{1}{2}} - v$ $^4D_{3\frac{1}{2}}$	4
4076. 708	2	24522. 70	-0. 06	<i>a</i> $^4H_{4\frac{1}{2}} - z$ $^4I_{4\frac{1}{2}}$	
4079. 241	500	24507. 47	{ -0. 01 -0. 12 }	<i>a</i> $^6D_{3\frac{1}{2}} - z$ $^6D_{4\frac{1}{2}}$	5
4079. 415	500	24506. 34		<i>a</i> $^4H_{4\frac{1}{2}} - z$ $^4I_{5\frac{1}{2}}$	
4082. 945	600	24485. 24	-0. 01	<i>a</i> $^6D_{0\frac{1}{2}} - z$ $^6D_{1\frac{1}{2}}$	4, C
4083. 634	500	24481. 11	-0. 01	<i>a</i> $^6D_{1\frac{1}{2}} - z$ $^6D_{2\frac{1}{2}}$	4
4085. 480	1	24470. 04	-0. 06	<i>a</i> $^2F_{3\frac{1}{2}} - x$ $^2F_{3\frac{1}{2}}$	
4087. 073	1	24460. 51	0. 00	<i>a</i> $^2F_{2\frac{1}{2}} - w$ $^4H_{3\frac{1}{2}}$	
4087. 617	1 <i>H</i>	24457. 25	-0. 07	<i>a</i> $^4D_{3\frac{1}{2}} - y$ $^6D_{2\frac{1}{2}}$	
4088. 565	6	24451. 58	-0. 02	<i>b</i> $^2I_{6\frac{1}{2}} - w$ $^2H_{5\frac{1}{2}}$	
4089. 941	60	24443. 36	-0. 03	<i>a</i> $^4H_{3\frac{1}{2}} - z$ $^4I_{4\frac{1}{2}}$	5
4090. 618	10	24439. 31	-0. 12	<i>a</i> $^4F_{3\frac{1}{2}} - v$ $^4D_{2\frac{1}{2}}$	4
4090. 910	3	24437. 57	0. 00	<i>b</i> $^2I_{5\frac{1}{2}} - w$ $^2H_{4\frac{1}{2}}$	
4092. 388	40 <i>h</i>	24428. 74	-0. 03	<i>a</i> $^4F_{3\frac{1}{2}} - v$ $^4D_{3\frac{1}{2}}$	6
4094. 070	6	24418. 70	-0. 13	<i>a</i> $^2G_{3\frac{1}{2}} - v$ $^2F_{2\frac{1}{2}}$	
4095. 052	10	24412. 85	-0. 06	<i>a</i> $^4F_{2\frac{1}{2}} - v$ $^4D_{1\frac{1}{2}}$	4
4095. 252	30	24411. 66	-0. 02	<i>a</i> $^2F_{3\frac{1}{2}} - y$ $^2D_{2\frac{1}{2}}$	4
4096. 676	5	24403. 17	-0. 25	<i>b</i> $^4G_{4\frac{1}{2}} - y$ $^2F_{3\frac{1}{2}}$	
4099. 399	8	24386. 96	-0. 11	<i>a</i> $^2G_{3\frac{1}{2}} - v$ $^2F_{3\frac{1}{2}}$	
4099. 899	5 <i>h</i>	24383. 99	-0. 13	<i>a</i> $^2H_{5\frac{1}{2}} - v$ $^4F_{4\frac{1}{2}}$	
4102. 970	30	24365. 74	-0. 08	<i>a</i> $^4F_{2\frac{1}{2}} - v$ $^4D_{2\frac{1}{2}}$	6
4103. 463	10	24362. 81	-0. 03	<i>a</i> $^4F_{1\frac{1}{2}} - v$ $^4D_{1\frac{1}{2}}$	P-B
4103. 560	5	24362. 22	-0. 09	<i>a</i> $^4F_{1\frac{1}{2}} - v$ $^4D_{0\frac{1}{2}}$	P-B
4105. 365	60 <i>c</i>	24351. 52	-0. 01	<i>a</i> $^4F_{0\frac{1}{2}} - x$ $^4I_{3\frac{1}{2}}$	5
4107. 873	10	24336. 66	-0. 02	<i>a</i> $^2I_{5\frac{1}{2}} - w$ $^4G_{4\frac{1}{2}}$	4
4110. 802	30	24319. 32	-0. 03	<i>a</i> $^4F_{3\frac{1}{2}} - x$ $^4F_{2\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$\text{o} - \text{e}$	Term designation	Zeeman type
Å Air		<i>K</i>	<i>K</i>		
4110. 894	60 <i>c</i>	24318. 77	0. 03	<i>a</i> $^4\text{F}_{4\frac{1}{2}} - x$ $^4\text{F}_{4\frac{1}{2}}$	
4111. 416	2	24315. 68	-0. 07	<i>a</i> $^4\text{F}_{1\frac{1}{2}} - v$ $^4\text{D}_{3\frac{1}{2}}$	
4113. 243	30	24304. 88	{ 0. 10 -0. 08	<i>a</i> $^4\text{P}_{1\frac{1}{2}} - x$ $^4\text{P}_{0\frac{1}{2}}$ ( <i>a</i> $^2\text{I}_{0\frac{1}{2}} - w$ $^4\text{G}_{3\frac{1}{2}}$ )	4
4113. 880	20	24301. 12	-0. 05	<i>a</i> $^4\text{F}_{2\frac{1}{2}} - x$ $^4\text{F}_{1\frac{1}{2}}$	5
4114. 381	25	24298. 16	-0. 02	<i>a</i> $^4\text{F}_{3\frac{1}{2}} - w$ $^4\text{D}_{3\frac{1}{2}}$	6
4114. 594	10 <i>Hl</i>	24296. 90	0. 08	<i>b</i> $^4\text{G}_{3\frac{1}{2}} - y$ $^2\text{F}_{3\frac{1}{2}}$	
4115. 033	1 <i>h</i>	24294. 31	0. 03	<i>b</i> $^4\text{G}_{5\frac{1}{2}} - y$ $^2\text{G}_{4\frac{1}{2}}$	
4116. 598	8 <i>Hl</i>	24285. 08	-0. 01	<i>b</i> $^4\text{G}_{2\frac{1}{2}} - y$ $^2\text{F}_{3\frac{1}{2}}$	6, 7 <i>b</i>
4119. 010	5	24270. 85	-0. 08	<i>a</i> $^4\text{P}_{0\frac{1}{2}} - x$ $^4\text{P}_{0\frac{1}{2}}$	
4122. 367	20	24251. 09	-0. 01	<i>a</i> $^4\text{F}_{1\frac{1}{2}} - x$ $^4\text{F}_{1\frac{1}{2}}$	6
4122. 757	12	24248. 80	-0. 06	<i>a</i> $^4\text{F}_{3\frac{1}{2}} - x$ $^4\text{F}_{3\frac{1}{2}}$	
4123. 280	15	24245. 72	-0. 02	<i>a</i> $^4\text{F}_{2\frac{1}{2}} - x$ $^4\text{F}_{2\frac{1}{2}}$	
4123. 542	20	24244. 18	0. 07	<i>a</i> $^4\text{P}_{2\frac{1}{2}} - x$ $^4\text{P}_{0\frac{1}{2}}$	
4125. 415	1 <i>h</i>	24233. 17	-0. 06	<i>a</i> $^4\text{D}_{2\frac{1}{2}} - w$ $^6\text{P}_{1\frac{1}{2}}$	
4125. 813	8 <i>c</i>	24230. 83	0. 03	<i>a</i> $^2\text{G}_{4\frac{1}{2}} - w$ $^2\text{G}_{4\frac{1}{2}}$	
4126. 710	1 <i>h</i>	24225. 57	0. 25	<i>a</i> $^4\text{D}_{2\frac{1}{2}} - y$ $^6\text{D}_{3\frac{1}{2}}$	
4126. 876	1	24224. 60	0. 03	<i>a</i> $^4\text{F}_{2\frac{1}{2}} - w$ $^4\text{D}_{3\frac{1}{2}}$	
4127. 751	1	24219. 46	0. 06	<i>a</i> $^4\text{F}_{1\frac{1}{2}} - u$ $^4\text{P}_{1\frac{1}{2}}$	
4130. 256	2 <i>h</i>	24204. 77	{ -0. 02 0. 01	<i>a</i> $^4\text{D}_{2\frac{1}{2}} - y$ $^6\text{D}_{3\frac{1}{2}}$ <i>a</i> $^2\text{F}_{2\frac{1}{2}} - x$ $^2\text{F}_{2\frac{1}{2}}$	
4131. 111	150	24199. 76	-0. 03	<i>a</i> $^4\text{H}_{6\frac{1}{2}} - y$ $^4\text{H}_{5\frac{1}{2}}$	6, 7 <i>b</i>
4131. 449	10	24197. 78	0. 13	<i>a</i> $^4\text{P}_{1\frac{1}{2}} - x$ $^4\text{P}_{0\frac{1}{2}}$	6, 7 <i>b</i>
4132. 282	6	24192. 90	0. 13	<i>z</i> $^4\text{F}_{3\frac{1}{2}} - f$ $^4\text{G}_{4\frac{1}{2}}$	4
4134. 619	20	24179. 23	0. 06	<i>a</i> $^2\text{F}_{2\frac{1}{2}} - y$ $^2\text{D}_{1\frac{1}{2}}$	5
4135. 034	100	24176. 80	0. 02	<i>a</i> $^4\text{H}_{5\frac{1}{2}} - y$ $^4\text{H}_{5\frac{1}{2}}$	6, 7 <i>b</i>
4137. 266	40	24163. 76	-0. 04	<i>a</i> $^4\text{P}_{0\frac{1}{2}} - x$ $^4\text{P}_{0\frac{1}{2}}$	4
4141. 063	100	24141. 60	-0. 02	<i>a</i> $^4\text{H}_{4\frac{1}{2}} - y$ $^4\text{H}_{4\frac{1}{2}}$	6, 7 <i>b</i>
4147. 529	60	24103. 97	0. 10	<i>a</i> $^4\text{P}_{2\frac{1}{2}} - x$ $^4\text{P}_{2\frac{1}{2}}$	6, 7 <i>b</i>
4148. 796	80	24096. 61	-0. 02	<i>a</i> $^4\text{H}_{3\frac{1}{2}} - y$ $^4\text{H}_{3\frac{1}{2}}$	6, 7 <i>b</i>
4149. 648	1 <i>H</i>	24091. 66	-0. 07	<i>a</i> $^2\text{F}_{3\frac{1}{2}} - w$ $^6\text{D}_{2\frac{1}{2}}$	
4150. 262	1	24088. 10	-0. 05	<i>a</i> $^4\text{H}_{5\frac{1}{2}} - y$ $^4\text{H}_{5\frac{1}{2}}$	
4151. 023	10 <i>hl</i>	24083. 68	{ 0. 28 -0. 22	<i>a</i> $^4\text{H}_{4\frac{1}{2}} - y$ $^4\text{H}_{5\frac{1}{2}}$ <i>b</i> $^4\text{G}_{4\frac{1}{2}} - y$ $^2\text{G}_{4\frac{1}{2}}$	
4151. 663	3 <i>h</i>	24079. 97	-0. 39	<i>b</i> $^4\text{G}_{4\frac{1}{2}} - z$ $^2\text{F}_{3\frac{1}{2}}$	
4152. 556	1	24074. 79	-0. 04	<i>a</i> $^2\text{G}_{3\frac{1}{2}} - w$ $^2\text{G}_{3\frac{1}{2}}$	
4154. 218	1	24065. 16	0. 06	<i>b</i> $^4\text{G}_{5\frac{1}{2}} - w$ $^4\text{G}_{4\frac{1}{2}}$	
4154. 631	2	24062. 76	-0. 15	<i>a</i> $^4\text{D}_{1\frac{1}{2}} - w$ $^6\text{P}_{1\frac{1}{2}}$	
4154. 726	1	24062. 22	-0. 03	<i>a</i> $^4\text{H}_{3\frac{1}{2}} - y$ $^4\text{H}_{4\frac{1}{2}}$	
4155. 525	40	24057. 59	0. 18	<i>a</i> $^4\text{P}_{1\frac{1}{2}} - x$ $^4\text{P}_{2\frac{1}{2}}$	4
4157. 019	60	24048. 94	{ -0. 03 0. 22	<i>b</i> $^4\text{G}_{5\frac{1}{2}} - w$ $^4\text{G}_{5\frac{1}{2}}$ <i>b</i> $^4\text{G}_{3\frac{1}{2}} - y$ $^2\text{G}_{3\frac{1}{2}}$ ?	6
4158. 692	8	24039. 24	-0. 03	<i>a</i> $^2\text{P}_{0\frac{1}{2}} - z$ $^2\text{P}_{0\frac{1}{2}}$	6
4159. 957	1	24031. 96	-0. 02	<i>a</i> $^2\text{G}_{3\frac{1}{2}} - w$ $^2\text{G}_{3\frac{1}{2}}$	
4164. 979	10 <i>h</i>	24002. 96	-0. 02	<i>a</i> $^2\text{P}_{0\frac{1}{2}} - z$ $^2\text{P}_{1\frac{1}{2}}$	5
4166. 208	6	23995. 90	-0. 11	<i>b</i> $^4\text{G}_{2\frac{1}{2}} - y$ $^2\text{G}_{3\frac{1}{2}}$	
4167. 197	2 <i>h</i>	23990. 21	-0. 03	<i>b</i> $^4\text{G}_{3\frac{1}{2}} - z$ $^2\text{F}_{3\frac{1}{2}}$	
4169. 440	1 <i>h</i>	23977. 30	0. 00	<i>b</i> $^4\text{G}_{3\frac{1}{2}} - y$ $^2\text{G}_{4\frac{1}{2}}$	
4175. 891	2 <i>h</i>	23940. 26	0. 26	<i>a</i> $^4\text{D}_{1\frac{1}{2}} - w$ $^6\text{P}_{2\frac{1}{2}}$	
4176. 608	100 <i>c</i>	23936. 15	-0. 03	<i>a</i> $^4\text{H}_{6\frac{1}{2}} - y$ $^4\text{G}_{5\frac{1}{2}}$	4
4179. 875	4 <i>h</i>	23917. 44	-0. 02	<i>a</i> $^4\text{D}_{2\frac{1}{2}} - y$ $^6\text{D}_{1\frac{1}{2}}$	
4182. 254	20 <i>Hw</i>	23903. 84	-0. 03	<i>a</i> $^2\text{H}_{5\frac{1}{2}} - y$ $^2\text{I}_{5\frac{1}{2}}$	
4184. 956	2 <i>h</i>	23888. 40	-0. 14	<i>e</i> $^8\text{S}_{3\frac{1}{2}} - 63319_{3\frac{1}{2}}$	
4189. 990	100	23859. 70	-0. 02	<i>a</i> $^4\text{H}_{5\frac{1}{2}} - y$ $^4\text{G}_{4\frac{1}{2}}$	4

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—e	Term designation	Zeeman type
Å Air		K	K		
4190. 901	1h	23854. 51	-0. 21	<i>b</i> ${}^4G_{4\frac{1}{2}}$ — <i>w</i> ${}^4G_{4\frac{1}{2}}$	
4193. 745	1	23838. 34	{ -0. 08 -0. 25	<i>a</i> ${}^4D_{3\frac{1}{2}}$ — <i>w</i> ${}^6P_{3\frac{1}{2}}$ <i>b</i> ${}^4G_{4\frac{1}{2}}$ — <i>w</i> ${}^4G_{3\frac{1}{2}}$	
4199. 250	1h	23807. 09	-0. 13	<i>a</i> ${}^2I_{5\frac{1}{2}}$ — <i>x</i> ${}^4H_{4\frac{1}{2}}$	
4201. 778	60	23792. 77	-0. 02	<i>a</i> ${}^4H_{4\frac{1}{2}}$ — <i>y</i> ${}^4G_{3\frac{1}{2}}$	4
4202. 612	1	23788. 05	0. 00	<i>a</i> ${}^2G_{4\frac{1}{2}}$ — <i>v</i> ${}^4H_{5\frac{1}{2}}$	
4203. 113	3	23785. 21	0. 14	<i>a</i> ${}^2I_{5\frac{1}{2}}$ — <i>x</i> ${}^4H_{5\frac{1}{2}}$	
4207. 956	1hl	23757. 84	-0. 08	<i>a</i> ${}^2G_{3\frac{1}{2}}$ — <i>w</i> ${}^2F_{3\frac{1}{2}}$	
4209. 677	2	23748. 12	0. 00	<i>b</i> ${}^4G_{3\frac{1}{2}}$ — <i>w</i> ${}^4G_{4\frac{1}{2}}$	
4209. 864	1h	23747. 07	-0. 07	<i>a</i> ${}^4D_{1\frac{1}{2}}$ — <i>y</i> ${}^6D_{5\frac{1}{2}}$	
4210. 519	2h	23743. 37	-0. 01	<i>b</i> ${}^4G_{3\frac{1}{2}}$ — <i>w</i> ${}^4G_{3\frac{1}{2}}$	
4211. 753	50	23736. 42	-0. 04	<i>a</i> ${}^4H_{3\frac{1}{2}}$ — <i>y</i> ${}^4G_{2\frac{1}{2}}$	5
4211. 942	10Hl	23735. 35	0. 01	<i>a</i> ${}^2H_{5\frac{1}{2}}$ — <i>61744</i> ${}_{5\frac{1}{2}}$	
4212. 443	8	23732. 53	-0. 11	<i>a</i> ${}^4D_{1\frac{1}{2}}$ — <i>y</i> ${}^6D_{0\frac{1}{2}}$	
4215. 842	1	23713. 40	-0. 02	<i>a</i> ${}^4H_{3\frac{1}{2}}$ — <i>y</i> ${}^4G_{3\frac{1}{2}}$	
4217. 186	1h	23705. 84	0. 02	<i>a</i> ${}^2H_{5\frac{1}{2}}$ — <i>y</i> ${}^2G_{4\frac{1}{2}}$	
4218. 405	5Hw	23698. 99	0. 10	<i>a</i> ${}^2H_{4\frac{1}{2}}$ — <i>y</i> ${}^2I_{5\frac{1}{2}}$	
4220. 610	50cw	23686. 61	-0. 06	<i>b</i> ${}^4P_{2\frac{1}{2}}$ — <i>y</i> ${}^4S_{1\frac{1}{2}}$	4
4221. 562	9h	23681. 27	-0. 03	<i>b</i> ${}^4G_{2\frac{1}{2}}$ — <i>w</i> ${}^4G_{3\frac{1}{2}}$	
4224. 336	5	23665. 72	-0. 04	<i>a</i> ${}^2H_{4\frac{1}{2}}$ — <i>y</i> ${}^2G_{3\frac{1}{2}}$	
4225. 080	2	23661. 55	-0. 04	<i>b</i> ${}^4P_{2\frac{1}{2}}$ — <i>v</i> ${}^4P_{3\frac{1}{2}}$	
4225. 785	1	23657. 60	-0. 10	<i>a</i> ${}^2G_{3\frac{1}{2}}$ — <i>v</i> ${}^4H_{4\frac{1}{2}}$	
4230. 144	10	23633. 22	-0. 07	<i>a</i> ${}^4D_{0\frac{1}{2}}$ — <i>y</i> ${}^6D_{0\frac{1}{2}}$	
4235. 154	400	23605. 27	-0. 04	<i>a</i> ${}^4D_{2\frac{1}{2}}$ — <i>y</i> ${}^4P_{1\frac{1}{2}}$	4
4235. 300	800	23604. 45	-0. 01	<i>a</i> ${}^4D_{3\frac{1}{2}}$ — <i>y</i> ${}^4P_{2\frac{1}{2}}$	4
4237. 104	2H	23594. 41	0. 07	<i>a</i> ${}^2H_{4\frac{1}{2}}$ — <i>y</i> ${}^2G_{4\frac{1}{2}}$	
4239. 737	200	23579. 75	-0. 02	<i>a</i> ${}^4D_{1\frac{1}{2}}$ — <i>y</i> ${}^4P_{0\frac{1}{2}}$	4
4247. 689	1	23535. 61	-0. 03	<i>b</i> ${}^4G_{5\frac{1}{2}}$ — <i>x</i> ${}^4H_{4\frac{1}{2}}$	
4250. 722	1h	23518. 82	0. 09	<i>b</i> ${}^4G_{5\frac{1}{2}}$ — <i>w</i> ${}^4P_{3\frac{1}{2}}$	
4251. 345	2hw	23515. 37	0. 09	<i>b</i> ${}^2I_{6\frac{1}{2}}$ — <i>u</i> ${}^4H_{6\frac{1}{2}}$	
4257. 669	200	23480. 44	0. 02	<i>a</i> ${}^4D_{0\frac{1}{2}}$ — <i>y</i> ${}^4P_{0\frac{1}{2}}$	6
4258. 369	7	23476. 58	-0. 06	<i>a</i> ${}^2H_{5\frac{1}{2}}$ — <i>w</i> ${}^4G_{3\frac{1}{2}}$	
4259. 349	10	23471. 18	-0. 06	<i>b</i> ${}^4G_{5\frac{1}{2}}$ — <i>x</i> ${}^4H_{6\frac{1}{2}}$	4
4261. 301	30	23460. 43	-0. 08	<i>a</i> ${}^2H_{5\frac{1}{2}}$ — <i>w</i> ${}^4G_{3\frac{1}{2}}$	6
4265. 928	400	23434. 99	0. 00	<i>a</i> ${}^4D_{1\frac{1}{2}}$ — <i>y</i> ${}^4P_{1\frac{1}{2}}$	
4271. 282	2	23405. 61	0. 19	<i>a</i> ${}^2F_{3\frac{1}{2}}$ — <i>y</i> ${}^2F_{2\frac{1}{2}}$	
4278. 676	20	23365. 16	0. 00	<i>a</i> ${}^2H_{4\frac{1}{2}}$ — <i>w</i> ${}^4G_{3\frac{1}{2}}$	6
4279. 545	8H	23360. 42	0. 00	<i>a</i> ${}^2H_{4\frac{1}{2}}$ — <i>y</i> ${}^4G_{3\frac{1}{2}}$	
4281. 100	500	23351. 93	0. 00	<i>a</i> ${}^4D_{2\frac{1}{2}}$ — <i>y</i> ${}^4P_{2\frac{1}{2}}$	6
4284. 083	100	23335. 67	0. 03	<i>a</i> ${}^4D_{0\frac{1}{2}}$ — <i>y</i> ${}^4P_{1\frac{1}{2}}$	5
4290. 111	10	23302. 89	-0. 22	<i>b</i> ${}^4G_{4\frac{1}{2}}$ — <i>x</i> ${}^4H_{5\frac{1}{2}}$	4
4300. 194	20	23248. 25	0. 00	<i>b</i> ${}^4G_{5\frac{1}{2}}$ — <i>z</i> ${}^2G_{4\frac{1}{2}}$	5
4305. 670	10	23218. 68	0. 02	<i>b</i> ${}^4G_{3\frac{1}{2}}$ — <i>x</i> ${}^4H_{4\frac{1}{2}}$	
4305. 985	4	23216. 98	{ -0. 09 0. 13	<i>a</i> ${}^2H_{5\frac{1}{2}}$ — <i>y</i> ${}^4I_{5\frac{1}{2}}$ <i>a</i> ${}^2H_{5\frac{1}{2}}$ — <i>y</i> ${}^4I_{6\frac{1}{2}}$	
4308. 633	1	23202. 71	-0. 02	<i>a</i> ${}^2H_{5\frac{1}{2}}$ — <i>y</i> ${}^4I_{4\frac{1}{2}}$	
4312. 554	100	23181. 62	0. 01	<i>a</i> ${}^4D_{1\frac{1}{2}}$ — <i>y</i> ${}^4P_{3\frac{1}{2}}$	5
4314. 424	2h	23171. 57	0. 03	<i>a</i> ${}^4F_{4\frac{1}{2}}$ — <i>y</i> ${}^4G_{4\frac{1}{2}}$	
4315. 235	8	23167. 22	-0. 06	<i>b</i> ${}^4G_{2\frac{1}{2}}$ — <i>x</i> ${}^4H_{3\frac{1}{2}}$	
4315. 532	1h	23165. 62	0. 04	<i>b</i> ${}^4G_{3\frac{1}{2}}$ — <i>w</i> ${}^4P_{3\frac{1}{2}}$	
4320. 284	4H	23140. 14	0. 06	<i>a</i> ${}^2F_{2\frac{1}{2}}$ — <i>y</i> ${}^2F_{2\frac{1}{2}}$	
4326. 181	5	23108. 60	-0. 20	<i>b</i> ${}^4G_{4\frac{1}{2}}$ — <i>z</i> ${}^2G_{3\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o-c$	Term designation	Zeeman type
Å		K	K		
Air					
4326. 747	1	23105. 57	-0. 02	$a\ ^2H_{4\frac{1}{2}}-y\ ^4I_{5\frac{1}{2}}$	
4327. 951	10H w	23099. 15	0. 05	$a\ ^2F_{2\frac{1}{2}}-y\ ^2F_{3\frac{1}{2}}$	
4328. 676	2	23095. 28	-0. 04	$a\ ^4F_{3\frac{1}{2}}-y\ ^4G_{3\frac{1}{2}}$	
4329. 430	3	23091. 26	0. 01	$a\ ^2H_{4\frac{1}{2}}-y\ ^4I_{4\frac{1}{2}}$	
4330. 938	1	23083. 22	0. 09	$b\ ^4G_{3\frac{1}{2}}-w\ ^4F_{2\frac{1}{2}}$	
4337. 414	30c	23048. 76	-0. 03	$b\ ^4P_{1\frac{1}{2}}-y\ ^4S_{1\frac{1}{2}}$	
4338. 135	2h	23044. 92	0. 00	$a\ ^2F_{3\frac{1}{2}}-y\ ^2G_{4\frac{1}{2}}$	
4338. 819	3h	23041. 29	-0. 09	$a\ ^2F_{3\frac{1}{2}}-z\ ^2F_{3\frac{1}{2}}$	
4342. 105	1	23023. 85	{ 0. 14 -0. 04	$b\ ^4P_{1\frac{1}{2}}-v\ ^4P_{2\frac{1}{2}}$ $a\ ^2G_{4\frac{1}{2}}-x\ ^2H_{3\frac{1}{2}}$	
4346. 331	5h	23001. 47	0. 00	$z\ ^8P_{2\frac{1}{2}}-e\ ^6S_{2\frac{1}{2}}$	
4352. 100	1?	22970. 98	0. 04	$b\ ^4G_{2\frac{1}{2}}-w\ ^4F_{1\frac{1}{2}}$	
4356. 180	1h	22949. 46	-0. 03	$b\ ^4G_{3\frac{1}{2}}-z\ ^2G_{3\frac{1}{2}}$	
4356. 613	2	22947. 18	0. 00	$a\ ^2H_{5\frac{1}{2}}-x\ ^4H_{4\frac{1}{2}}$	
4359. 640	2	22931. 25	-0. 02	$b\ ^4G_{3\frac{1}{2}}-z\ ^2G_{3\frac{1}{2}}$	
4359. 815	8h	22930. 33	0. 06	$a\ ^2H_{5\frac{1}{2}}-w\ ^4F_{4\frac{1}{2}}$	
4366. 078	1	22897. 44	0. 03	$b\ ^4P_{1\frac{1}{2}}-v\ ^4P_{1\frac{1}{2}}$	
4368. 881	50	22882. 75	-0. 03	$a\ ^2H_{3\frac{1}{2}}-x\ ^4H_{3\frac{1}{2}}$	
4370. 881	8	22872. 29	0. 00	$z\ ^8P_{3\frac{1}{2}}-e\ ^6S_{2\frac{1}{2}}$	
4374. 952	50	22851. 00	{ -0. 16 0. 00	$a\ ^4P_{1\frac{1}{2}}-v\ ^6P_{1\frac{1}{2}}$ $a\ ^2F_{2\frac{1}{2}}-y\ ^2G_{3\frac{1}{2}}$	7b
4381. 700	50	22815. 80	0. 06	$a\ ^2F_{3\frac{1}{2}}-w\ ^4G_{4\frac{1}{2}}$	4
4382. 135	1	22813. 54	-0. 01	$a\ ^2H_{4\frac{1}{2}}-x\ ^4H_{5\frac{1}{2}}$	
4382. 620	40H	22811. 01	{ 0. 02 0. 01	$a\ ^4P_{2\frac{1}{2}}-v\ ^6P_{2\frac{1}{2}}$ $a\ ^2F_{3\frac{1}{2}}-w\ ^4G_{3\frac{1}{2}}$	6, 7b
4384. 410	2h	22801. 70	0. 07	$a\ ^2F_{3\frac{1}{2}}-w\ ^4G_{2\frac{1}{2}}$	
4386. 176	2h	22792. 52	0. 00	$a\ ^2F_{2\frac{1}{2}}-z\ ^2F_{2\frac{1}{2}}$	
4388. 092	10	22782. 57	-0. 05	$a\ ^2H_{4\frac{1}{2}}-w\ ^4F_{3\frac{1}{2}}$	
4389. 377	1h	22775. 90	-0. 14	$a\ ^2F_{2\frac{1}{2}}-z\ ^2F_{3\frac{1}{2}}$	
4390. 540	2h	22769. 87	-0. 01	$b\ ^4D_{3\frac{1}{2}}-y\ ^4D_{3\frac{1}{2}}$	
4393. 413	8	22754. 96	-0. 04	$b\ ^4D_{3\frac{1}{2}}-y\ ^4D_{2\frac{1}{2}}$	
4408. 083	5s	22679. 25	0. 03	$a\ ^2I_{5\frac{1}{2}}-z\ ^2I_{5\frac{1}{2}}$	6
4410. 493	2	22666. 86	-0. 04	$b\ ^4P_{0\frac{1}{2}}-y\ ^4S_{1\frac{1}{2}}$	
4411. 874	10	22659. 77	-0. 02	$a\ ^2H_{5\frac{1}{2}}-z\ ^2G_{4\frac{1}{2}}$	4
4414. 887	40	22644. 30	0. 04	$a\ ^4D_{3\frac{1}{2}}-z\ ^4D_{3\frac{1}{2}}$	5
4419. 769	10	22619. 29	0. 05	$a\ ^2H_{4\frac{1}{2}}-z\ ^2G_{3\frac{1}{2}}$	4
4433. 720	1s	22548. 12	-0. 19	$a\ ^2H_{4\frac{1}{2}}-z\ ^2G_{4\frac{1}{2}}$	
4434. 139	2	22545. 98	0. 32	$a\ ^2F_{2\frac{1}{2}}-w\ ^4G_{3\frac{1}{2}}$	
4436. 061	6h	22536. 22	-0. 07	$a\ ^2F_{2\frac{1}{2}}-w\ ^4G_{3\frac{1}{2}}$	
4436. 358	80	22534. 70	0. 01	$a\ ^4D_{2\frac{1}{2}}-z\ ^4D_{1\frac{1}{2}}$	5
4439. 873	0	22516. 87	-0. 14	$a\ ^2G_{4\frac{1}{2}}-z^2H_{4\frac{1}{2}}$	
4451. 575	100	22457. 66	0. 06	$a\ ^4D_{3\frac{1}{2}}-z\ ^4D_{3\frac{1}{2}}$	6, 7b
4452. 525	7s	22452. 88	0. 01	$a\ ^2I_{6\frac{1}{2}}-z\ ^2I_{6\frac{1}{2}}$	
4453. 013	50	22450. 42	0. 01	$a\ ^4D_{1\frac{1}{2}}-z\ ^4D_{0\frac{1}{2}}$	5
4455. 019	25	22440. 32	0. 00	$z\ ^6P_{1\frac{1}{2}}-e\ ^6D_{0\frac{1}{2}}$	
4455. 320	25	22438. 80	-0. 03	$z\ ^6P_{1\frac{1}{2}}-e\ ^6D_{1\frac{1}{2}}$	
4455. 820	25	22436. 29	0. 00	$z\ ^6P_{1\frac{1}{2}}-e\ ^6D_{2\frac{1}{2}}$	
4457. 041	20	22430. 14	0. 04	$z\ ^6P_{2\frac{1}{2}}-e\ ^6D_{1\frac{1}{2}}$	
4457. 553	20	22427. 56	0. 00	$z\ ^6P_{2\frac{1}{2}}-e\ ^6D_{2\frac{1}{2}}$	
4458. 263	25	22423. 99	-0. 02	$z\ ^6P_{2\frac{1}{2}}-e\ ^6D_{3\frac{1}{2}}$	
4460. 376	20	22413. 37	0. 01	$z\ ^6P_{3\frac{1}{2}}-e\ ^6D_{2\frac{1}{2}}$	
4461. 089	30	22409. 84	0. 03	$z\ ^6P_{3\frac{1}{2}}-e\ ^6D_{3\frac{1}{2}}$	
4462. 033	150	22405. 05	0. 02	$z\ ^6P_{3\frac{1}{2}}-e\ ^6D_{4\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å Air		K	K		
4464. 679	80	22391. 76	0. 03	$a\ ^4D_{2\frac{1}{2}}—z\ ^4D_{2\frac{1}{2}}$	6, 7b
4470. 142	60	22364. 40	0. 03	$a\ ^4D_{1\frac{1}{2}}—z\ ^4D_{1\frac{1}{2}}$	6, 7b
4472. 793	100	22351. 14	0. 08	$a\ ^4D_{0\frac{1}{2}}—z\ ^4D_{0\frac{1}{2}}$	6, 0
4473. 52	2	22347. 2	0. 1	$a\ ^4F_{1\frac{1}{2}}—y\ ^4S_{1\frac{1}{2}}$	
4479. 399	10s	22318. 18	-0. 01	$a\ ^2G_{3\frac{1}{2}}—z\ ^2H_{4\frac{1}{2}}$	5
4489. 23	2	22269. 3	-0. 1	$a\ ^2F_{3\frac{1}{2}}—w\ ^4F_{4\frac{1}{2}}$	
4490. 078	30	22265. 10	0. 08	$a\ ^4D_{0\frac{1}{2}}—z\ ^4D_{0\frac{1}{2}}$	5
4491. 652	10s	22257. 30	{ 0. 00   0. 00	$a\ ^2G_{4\frac{1}{2}}—z\ ^2H_{5\frac{1}{2}}$ $a\ ^2G_{4\frac{1}{2}}—x\ ^2F_{3\frac{1}{2}}$	5
4496. 638	8s	22232. 62	-0. 04	$b\ ^4G_{5\frac{1}{2}}—x\ ^4G_{5\frac{1}{2}}$	6
4498. 897	20	22221. 45	0. 04	$a\ ^4D_{1\frac{1}{2}}—z\ ^4D_{0\frac{1}{2}}$	5
4502. 223	30	22205. 04	-0. 03	$a\ ^4D_{2\frac{1}{2}}—z\ ^4D_{3\frac{1}{2}}$	5
4503. 868	15	22196. 93	0. 05	$b\ ^4G_{5\frac{1}{2}}—z\ ^2I_{6\frac{1}{2}}$	4
4512. 659	2	22153. 69	0. 00	$b\ ^4G_{4\frac{1}{2}}—x\ ^4G_{3\frac{1}{2}}$	
4520. 016	1	22117. 63	0. 02	$a\ ^2G_{3\frac{1}{2}}—y\ ^2H_{4\frac{1}{2}}$	
4523. 399	3s	22101. 09	-0. 23	$b\ ^4G_{4\frac{1}{2}}—x\ ^4G_{4\frac{1}{2}}$	6, 7b
4529. 804	3s	22069. 84	0. 02	$a\ ^2F_{3\frac{1}{2}}—z\ ^2G_{3\frac{1}{2}}$	6
4534. 481	2, 5s	22047. 08	-0. 01	$b\ ^4G_{3\frac{1}{2}}—x\ ^4G_{3\frac{1}{2}}$	6, 7b
4538. 475	2	22027. 68	-0. 09	$b\ ^4G_{2\frac{1}{2}}—x\ ^4G_{2\frac{1}{2}}$	
4541. 26	2	22014. 2	-0. 1	$a\ ^2P_{0\frac{1}{2}}—w\ ^4D_{2\frac{1}{2}}$	
4544. 423	5s	21998. 85	-0. 04	$a\ ^2F_{3\frac{1}{2}}—z\ ^2G_{4\frac{1}{2}}$	4
4546. 32	12	21994. 5	{ 0. 1   -0. 2	$b\ ^4G_{2\frac{1}{2}}—x\ ^4G_{3\frac{1}{2}}$ $b\ ^4G_{3\frac{1}{2}}—x\ ^4G_{4\frac{1}{2}}$	
4561. 13	2	21918. 2	0. 2	$z\ ^6P_{2\frac{1}{2}}—e\ ^8D_{1\frac{1}{2}}$	
4563. 62	2	21906. 4	0. 3	$z\ ^6P_{3\frac{1}{2}}—e\ ^8D_{3\frac{1}{2}}$	
4564. 0	2	21904. 5	-0. 3	$z\ ^6P_{3\frac{1}{2}}—e\ ^8D_{2\frac{1}{2}}$	
4565. 77	10	21896. 0	0. 0	$y\ ^6P_{2\frac{1}{2}}—f\ ^4D_{1\frac{1}{2}}$	
4578. 077	1	21837. 13	-0. 07	$b\ ^4G_{5\frac{1}{2}}—x\ ^4F_{4\frac{1}{2}}$	
4581. 854	2	21819. 13	-0. 05	$a\ ^2H_{5\frac{1}{2}}—z\ ^2I_{5\frac{1}{2}}$	
4584. 918	1	21804. 56	0. 08	$a\ ^2F_{2\frac{1}{2}}—z\ ^2G_{3\frac{1}{2}}$	
4586. 114	(30h)	21798. 04	-0. 38	$a\ ^2P_{1\frac{1}{2}}—u\ ^4P_{1\frac{1}{2}}$	
4598. 940	1	21738. 08	0. 12	$b\ ^4G_{2\frac{1}{2}}—v\ ^4D_{1\frac{1}{2}}?$	
4605. 365	20	21707. 75	0. 05	$a\ ^2H_{4\frac{1}{2}}—z\ ^2I_{5\frac{1}{2}}$	5
4606. 38	1	21702. 9	0. 0	$b\ ^4D_{1\frac{1}{2}}—u\ ^6P_{3\frac{1}{2}}$	
4607. 61	7s	21697. 2	0. 0	$a\ ^4D_{3\frac{1}{2}}—x\ ^6P_{3\frac{1}{2}}$	
4614. 12	1	21666. 6	0. 0	$b\ ^4P_{2\frac{1}{2}}—v\ ^6F_{3\frac{1}{2}}?$	
4615. 65	8	21659. 4	-0. 2	$b\ ^4G_{4\frac{1}{2}}—x\ ^4F_{3\frac{1}{2}}$	
4620. 21	5h	21638. 0	0. 0	$a\ ^2P_{0\frac{1}{2}}—w\ ^4D_{1\frac{1}{2}}$	
4622. 74	8	21626. 2	0. 0	$b\ ^4G_{2\frac{1}{2}}—x\ ^4F_{1\frac{1}{2}}$	
4623. 33	8	21623. 4	-0. 1	$b\ ^4G_{3\frac{1}{2}}—x\ ^4F_{2\frac{1}{2}}$	
4624. 220	8	21619. 22	0. 29	$y\ ^6P_{3\frac{1}{2}}—e\ ^8P_{4\frac{1}{2}}$	
4626. 544	25	21608. 37	-0. 05	$a\ ^2H_{5\frac{1}{2}}—z\ ^2I_{6\frac{1}{2}}$	4
4626. 861	2	21606. 89	-0. 02	$a\ ^4D_{2\frac{1}{2}}—x\ ^6P_{2\frac{1}{2}}$	
4642. 803	5s	21532. 70	-0. 02	$a\ ^2H_{4\frac{1}{2}}—x\ ^4G_{5\frac{1}{2}}$	
4658. 42	12	21460. 5	0. 1	$b\ ^4P_{1\frac{1}{2}}—55923\ ^2D_{2\frac{1}{2}}$	
4661. 93	2	21444. 4	-0. 3	$a\ ^4D_{2\frac{1}{2}}—x\ ^6P_{3\frac{1}{2}}$	
4663. 638	2	21436. 51	-0. 08	$a\ ^4D_{1\frac{1}{2}}—x\ ^6P_{2\frac{1}{2}}$	
4671. 688	10s	21399. 57	-0. 05	$a\ ^4D_{3\frac{1}{2}}—z\ ^4F_{2\frac{1}{2}}$	5
4697. 52	2	21281. 9	0. 1	$b\ ^4P_{2\frac{1}{2}}—x\ ^4D_{3\frac{1}{2}}$	
4701. 150	8s	21265. 46	-0. 07	$a\ ^4D_{2\frac{1}{2}}—z\ ^4P_{1\frac{1}{2}}$	
4709. 710	40	21226. 81	0. 03	$a\ ^4D_{3\frac{1}{2}}—z\ ^4P_{3\frac{1}{2}}$	6
4712. 02	5	21216. 5	0. 0	$a\ ^2P_{0\frac{1}{2}}—u\ ^4P_{0\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o-c$	Term designation	Zeeman type
Å Air		K	K		
4727. 462	30	21147. 10	0. 01	$a\ ^4D_{2\frac{1}{2}}-z\ ^4F_{2\frac{1}{2}}$	6
4728. 789	1	21141. 17	0. 13	$b\ ^4D_{0\frac{1}{2}}-x\ ^4P_{0\frac{1}{2}}$	
4731. 92	1	21127. 2	0. 1	$b\ ^4D_{1\frac{1}{2}}-x\ ^4P_{0\frac{1}{2}}$	
4739. 110	25	21095. 13	-0. 08	$a\ ^4D_{1\frac{1}{2}}-z\ ^4F_{1\frac{1}{2}}$	6
4754. 048	50H	21028. 85	0. 00	$z\ ^8P_{2\frac{1}{2}}-e\ ^8S_{3\frac{1}{2}}$	4
4761. 527	50	20995. 81	-0. 05	$a\ ^4D_{0\frac{1}{2}}-z\ ^4F_{1\frac{1}{2}}$	5
4762. 376	80	20992. 09	0. 00	$a\ ^4D_{3\frac{1}{2}}-z\ ^4F_{1\frac{1}{2}}$	4
4765. 856	60	20976. 71	-0. 06	$a\ ^4D_{1\frac{1}{2}}-z\ ^4F_{2\frac{1}{2}}$	4
4766. 426	70	20974. 25	0. 00	$a\ ^4D_{2\frac{1}{2}}-z\ ^4F_{3\frac{1}{2}}$	
4771. 668	4s	20951. 18	-0. 02	$b\ ^4D_{3\frac{1}{2}}-x\ ^4P_{2\frac{1}{2}}$	
4779. 138	4	20918. 44	0. 01	$b\ ^4G_{5\frac{1}{2}}-y\ ^4H_{6\frac{1}{2}}$	
4783. 432	100	20899. 67	0. 00	$z\ ^8P_{3\frac{1}{2}}-e\ ^8S_{3\frac{1}{2}}$	6
4786. 867	3	20884. 67	-0. 01	$z\ ^6D_{0\frac{1}{2}}-e\ ^6F_{1\frac{1}{2}}$	
4793. 011	8	20857. 90	-0. 06	$a\ ^2H_{5\frac{1}{2}}-z\ ^4I_{6\frac{1}{2}}$	
4796. 055	3	20844. 62	-0. 10	$a\ ^2G_{3\frac{1}{2}}-y\ ^2F_{2\frac{1}{2}}$	
4796. 704	15	20841. 85	-0. 23	$y\ ^6P_{2\frac{1}{2}}-i\ ^6D_{1\frac{1}{2}}$	
4798. 324	1	20834. 81	0. 12	$a\ ^2H_{5\frac{1}{2}}-z\ ^4I_{6\frac{1}{2}}$	
4807. 170	3s	20796. 46	-0. 22	$b\ ^4G_{4\frac{1}{2}}-y\ ^4H_{5\frac{1}{2}}$	
4815. 109	15h	20762. 18	-0. 06	$z\ ^6D_{1\frac{1}{2}}-e\ ^6F_{2\frac{1}{2}}$	
4816. 909	1	20754. 42	-0. 04	$a\ ^2G_{4\frac{1}{2}}-y\ ^2G_{3\frac{1}{2}}$	
4818. 331	2s	20748. 29	-0. 01	$b\ ^4G_{3\frac{1}{2}}-y\ ^4H_{4\frac{1}{2}}$	
4822. 708	10h	20729. 46	-0. 51	$b\ ^4G_{2\frac{1}{2}}-y\ ^4H_{3\frac{1}{2}}$ ?	
4823. 528	150	20725. 94	0. 00	$z\ ^8P_{4\frac{1}{2}}-e\ ^8S_{3\frac{1}{2}}$	4
4825. 592	20	20717. 07	0. 00	$z\ ^4P_{2\frac{1}{2}}-e\ ^4P_{1\frac{1}{2}}$	4
4826. 890	10	20711. 50	0. 00	$z\ ^4P_{1\frac{1}{2}}-e\ ^4P_{0\frac{1}{2}}$	4
4838. 228	8	20662. 97	0. 00	$z\ ^4P_{0\frac{1}{2}}-e\ ^4P_{0\frac{1}{2}}$	
4840. 139	3	20654. 81	-0. 01	$b\ ^4G_{5\frac{1}{2}}-y\ ^4G_{5\frac{1}{2}}$	
4840. 21	2	20654. 51	0. 02	$b\ ^4P_{0\frac{1}{2}}-y\ ^8F_{1\frac{1}{2}}$	
4843. 188	4	20641. 81	0. 01	$z\ ^4P_{1\frac{1}{2}}-e\ ^4P_{1\frac{1}{2}}$	
4844. 312	20s	20637. 03	0. 01	$z\ ^4P_{2\frac{1}{2}}-e\ ^4P_{2\frac{1}{2}}$	6
4854. 610	10s	20593. 24	-0. 03	$z\ ^4P_{0\frac{1}{2}}-e\ ^4P_{1\frac{1}{2}}$	4
4862. 048	15s	20561. 74	-0. 01	$z\ ^4P_{1\frac{1}{2}}-e\ ^4P_{2\frac{1}{2}}$	4
4881. 578	3	20479. 47	-0. 15	$b\ ^4G_{4\frac{1}{2}}-y\ ^4G_{4\frac{1}{2}}$	
4888. 833	2	20449. 08	-0. 04	$a\ ^2G_{4\frac{1}{2}}-w\ ^4G_{3\frac{1}{2}}$	
4900. 719	2	20399. 47	0. 00	$b\ ^4G_{3\frac{1}{2}}-y\ ^4G_{3\frac{1}{2}}$	
4902. 202	1	20393. 32	0. 10	$b\ ^4P_{2\frac{1}{2}}-z\ ^4S_{1\frac{1}{2}}$	
4907. 868	2	20369. 77	-0. 03	$b\ ^4G_{2\frac{1}{2}}-y\ ^4G_{2\frac{1}{2}}$	
4917. 446	1	20330. 10	0. 13	$a\ ^2H_{5\frac{1}{2}}-y\ ^4H_{6\frac{1}{2}}$	
4939. 115	6h	20240. 91	-0. 02	$z\ ^6D_{2\frac{1}{2}}-e\ ^6F_{3\frac{1}{2}}$	
4942. 396	3	20227. 47	0. 06	$a\ ^4D_{3\frac{1}{2}}-z\ ^6F_{3\frac{1}{2}}$	
4956. 733	1s	20168. 97	0. 15	$a\ ^4F_{4\frac{1}{2}}-x\ ^4D_{3\frac{1}{2}}$	
4965. 856	30	20131. 91	0. 00	$a\ ^4D_{3\frac{1}{2}}-z\ ^6F_{4\frac{1}{2}}$	
4974. 334	6h	20097. 60	0. 06	$z\ ^6D_{3\frac{1}{2}}-e\ ^6F_{4\frac{1}{2}}$	
4982. 067	1	20066. 41	0. 05	$a\ ^2H_{5\frac{1}{2}}-y\ ^4G_{5\frac{1}{2}}$	
4985. 734	10s	20051. 65	0. 36	$a\ ^4P_{1\frac{1}{2}}-y\ ^4P_{0\frac{1}{2}}$	
4987. 066	2s	20046. 29	-0. 01	$a\ ^4D_{2\frac{1}{2}}-z\ ^6F_{2\frac{1}{2}}$	
4994. 213	3s	20017. 61	0. 17	$a\ ^4P_{0\frac{1}{2}}-y\ ^4P_{0\frac{1}{2}}$	
5004. 891	20s	19974. 90	0. 02	$a\ ^4D_{2\frac{1}{2}}-z\ ^6F_{3\frac{1}{2}}$	
5010. 349	8s	19953. 14	0. 17	$a\ ^4P_{2\frac{1}{2}}-y\ ^4P_{1\frac{1}{2}}$	
5017. 612	20h	19924. 26	0. 12	$z\ ^6D_{4\frac{1}{2}}-e\ ^6F_{5\frac{1}{2}}$	
5022. 004	5s	19906. 83	0. 32	$a\ ^4P_{1\frac{1}{2}}-y\ ^4P_{1\frac{1}{2}}$	
5029. 779	10s	19876. 06	0. 08	$a\ ^4D_{1\frac{1}{2}}-z\ ^6F_{2\frac{1}{2}}$	
5030. 623	5s	19872. 73	0. 07	$a\ ^4P_{0\frac{1}{2}}-y\ ^4P_{0\frac{1}{2}}$	
5042. 567	4s	19825. 55	-0. 03	$a\ ^4D_{0\frac{1}{2}}-z\ ^6F_{1\frac{1}{2}}$	
5074. 805	15	19699. 72	0. 13	$a\ ^4P_{2\frac{1}{2}}-y\ ^4P_{2\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å		K	K		
Air					
5086. 884	10s	19652. 94	-0. 19	$a\ ^4P_{1\frac{1}{2}}—y\ ^4P_{2\frac{1}{2}}$	
5091. 018	1s	19636. 98	-0. 03	$a\ ^2G_{4\frac{1}{2}}—z\ ^2G_{4\frac{1}{2}}$	
5117. 935	20s	19533. 70	0. 01	$a\ ^4G_{2\frac{1}{2}}—z\ ^4F_{1\frac{1}{2}}$	P—B
5142. 919	15s	19438. 81	0. 02	$z\ ^6F_{1\frac{1}{2}}—e\ ^6F_{1\frac{1}{2}}$	
5149. 155	50	19415. 27	0. 02	$a\ ^4G_{2\frac{1}{2}}—z\ ^4F_{2\frac{1}{2}}$	
5150. 937	30s	19408. 55	0. 00	$a\ ^4G_{3\frac{1}{2}}—z\ ^4F_{3\frac{1}{2}}$	
5177. 077	2	19310. 55	0. 24	$z\ ^6F_{2\frac{1}{2}}—e\ ^6F_{2\frac{1}{2}}$	
5180. 298	2s	19298. 55	-0. 05	$b\ ^4P_{2\frac{1}{2}}—y\ ^4D_{3\frac{1}{2}}$	
5190. 02	6h	19262. 40	-0. 64	$y\ ^6P_{1\frac{1}{2}}—g\ ^6D_{1\frac{1}{2}}$	
5190. 69	6h	19259. 91	-0. 01	$y\ ^6P_{1\frac{1}{2}}—g\ ^6D_{0\frac{1}{2}}$	
5196. 603	30s	19238. 00	-0. 02	$a\ ^4G_{4\frac{1}{2}}—z\ ^4F_{3\frac{1}{2}}$	
5197. 229	10	19235. 68	-0. 03	$a\ ^4G_{3\frac{1}{2}}—z\ ^4F_{3\frac{1}{2}}$	
5199. 51	3	19227. 24	0. 07	$y\ ^6P_{2\frac{1}{2}}—g\ ^6D_{1\frac{1}{2}}$	
5200. 18	5	19224. 77	-0. 04	$y\ ^6P_{2\frac{1}{2}}—g\ ^6D_{2\frac{1}{2}}$	
5201. 440	2H	19220. 11	-0. 13	$y\ ^6P_{2\frac{1}{2}}—g\ ^6D_{3\frac{1}{2}}$	4
5213. 34	8	19176. 24	0. 12	$y\ ^6P_{3\frac{1}{2}}—g\ ^6D_{3\frac{1}{2}}$	
5215. 434	5II	19168. 54	-0. 05	$y\ ^6P_{3\frac{1}{2}}—g\ ^6D_{4\frac{1}{2}}$	
5249. 371	2	19044. 60	-0. 01	$b\ ^4P_{2\frac{1}{2}}—x\ ^6D_{3\frac{1}{2}}$	
5255. 330	30	19023. 02	0. 00	$a\ ^4G_{5\frac{1}{2}}—z\ ^4F_{4\frac{1}{2}}$	
5260. 771	8s	19003. 34	0. 01	$a\ ^4G_{4\frac{1}{2}}—z\ ^4F_{4\frac{1}{2}}$	
5274. 206	2	18954. 94	-0. 02	$z\ ^6F_{3\frac{1}{2}}—e\ ^4G_{4\frac{1}{2}}$	
5277. 54	8II	18942. 96	0. 29	$z\ ^4F_{4\frac{1}{2}}—e\ ^4F_{4\frac{1}{2}}$	
5284. 196	6II	18919. 10	0. 01	$z\ ^6F_{2\frac{1}{2}}—e\ ^6G_{2\frac{1}{2}}$ ?	
5289. 495	5h	18900. 15	{ -0. 30 -0. 40	$z\ ^6F_{0\frac{1}{2}}—e\ ^6G_{1\frac{1}{2}}$ $z\ ^4F_{3\frac{1}{2}}—e\ ^4F_{3\frac{1}{2}}$	
5292. 869	1	18888. 10	0. 02	$a\ ^4P_{0\frac{1}{2}}—z\ ^4D_{0\frac{1}{2}}$	
5297. 920	3hd	18870. 10	-0. 04	$z\ ^6F_{3\frac{1}{2}}—e\ ^6G_{2\frac{1}{2}}$	
5298. 84	7s	18866. 82	0. 04	$z\ ^6F_{4\frac{1}{2}}—e\ ^4G_{5\frac{1}{2}}$	
5308. 92	15h	18831. 00	0. 02	$z\ ^6F_{2\frac{1}{2}}—e\ ^6G_{3\frac{1}{2}}$	
5317. 082	8s	18802. 09	0. 05	$a\ ^4P_{0\frac{1}{2}}—z\ ^4D_{1\frac{1}{2}}$	
5324. 317	20h	18776. 54	-0. 01	$z\ ^6F_{3\frac{1}{2}}—e\ ^6G_{4\frac{1}{2}}$	
5325. 999	5h	18770. 61	0. 03	$z\ ^6F_{3\frac{1}{2}}—e\ ^6G_{3\frac{1}{2}}$	
5334. 872	5s	18739. 39	0. 00	$a\ ^4P_{2\frac{1}{2}}—z\ ^4D_{2\frac{1}{2}}$	
5341. 065	250	18717. 66	-0. 02	$a\ ^6D_{4\frac{1}{2}}—y\ ^6P_{3\frac{1}{2}}$	4
5344. 438	50II	18705. 85	-0. 02	$z\ ^6F_{4\frac{1}{2}}—e\ ^6G_{5\frac{1}{2}}$	
5348. 078	20s	18693. 12	0. 19	$a\ ^4P_{1\frac{1}{2}}—z\ ^4D_{2\frac{1}{2}}$	
5349. 878	80H	18686. 83	-0. 03	$z\ ^6F_{5\frac{1}{2}}—e\ ^6G_{6\frac{1}{2}}$	
5361. 631	1	18645. 86	0. 02	$b\ ^4P_{1\frac{1}{2}}—y\ ^4D_{2\frac{1}{2}}$	
5364. 488	5	18635. 94	-0. 03	$a\ ^4D_{3\frac{1}{2}}—z\ ^6D_{3\frac{1}{2}}$	
5374. 39	1h	18601. 60	0. 00	$z\ ^6F_{4\frac{1}{2}}—e\ ^6F_{4\frac{1}{2}}$	
5375. 306	2	18598. 42	0. 00	$z\ ^4H_{8\frac{1}{2}}—f\ ^4G_{5\frac{1}{2}}$ ?	
5377. 634	100	18590. 38	0. 02	$z\ ^4P_{2\frac{1}{2}}—e\ ^4S_{1\frac{1}{2}}$	4
5388. 538	15s	18552. 80	0. 07	$a\ ^4P_{2\frac{1}{2}}—z\ ^4D_{3\frac{1}{2}}$	
5394. 677	30	18531. 65	0. 01	$a\ ^6S_{2\frac{1}{2}}—z\ ^8P_{3\frac{1}{2}}$	4
5399. 506	30	18515. 08	-0. 01	$z\ ^4P_{1\frac{1}{2}}—e\ ^4S_{1\frac{1}{2}}$	6
5402. 608	1	18504. 45	-0. 08	$a\ ^4D_{2\frac{1}{2}}—z\ ^6D_{2\frac{1}{2}}$	
5406. 014	5	18492. 79	-0. 02	$a\ ^4D_{3\frac{1}{2}}—z\ ^6D_{4\frac{1}{2}}$	
5407. 432	50c	18487. 97	0. 00	$a\ ^6D_{3\frac{1}{2}}—y\ ^6P_{3\frac{1}{2}}$	6
5413. 696	30	18466. 55	-0. 01	$z\ ^4P_{0\frac{1}{2}}—e\ ^4S_{1\frac{1}{2}}$	
5420. 368	100c	18443. 82	-0. 03	$a\ ^6D_{3\frac{1}{2}}—y\ ^6P_{3\frac{1}{2}}$	4
5426. 192	2	18424. 03	-0. 02	$a\ ^4D_{1\frac{1}{2}}—z\ ^6D_{0\frac{1}{2}}$	
5427. 184	1h	18420. 66	0. 16	$b\ ^4P_{1\frac{1}{2}}—x\ ^6D_{1\frac{1}{2}}, \ ^{2\frac{1}{2}}$	
5432. 555	60	18402. 45	-0. 01	$a\ ^6S_{2\frac{1}{2}}—z\ ^8P_{3\frac{1}{2}}$	
5433. 422	100wc	18399. 50	0. 11	$z\ ^6F_{5\frac{1}{2}}—e\ ^6F_{5\frac{1}{2}}$	
5439. 290	0	18379. 66	-0. 03	$a\ ^4D_{0\frac{1}{2}}—z\ ^6D_{0\frac{1}{2}}$	
5444. 094	1h	18363. 44	0. 03	$a\ ^4G_{2\frac{1}{2}}—z\ ^6F_{1\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o - e$	Term designation	Zeeman type
Å		K	K		
Air					
5445. 99	1h	18357. 04	0. 10	$y \ ^4F_{3\frac{1}{2}} - f \ ^4G_{4\frac{1}{2}}$	
5447. 576	1h	18351. 70	-0. 02	$y \ ^4F_{4\frac{1}{2}} - f \ ^4G_{5\frac{1}{2}}$	
5457. 468	30	18318. 44	-0. 01	$a \ ^6D_{2\frac{1}{2}} - y \ ^6P_{3\frac{1}{2}}$	
5460. 645	1	18307. 78	0. 02	$a \ ^4G_{3\frac{1}{2}} - z \ ^6P_{3\frac{1}{2}}$	
5470. 640	100	18274. 33	0. 00	$a \ ^6D_{2\frac{1}{2}} - y \ ^6P_{2\frac{1}{2}}$	6
5481. 345	100	18238. 48	0. 02	$a \ ^6D_{2\frac{1}{2}} - y \ ^6P_{1\frac{1}{2}}$	
5495. 913	1	18190. 30	0. 02	$z \ ^4F_{3\frac{1}{2}} - e \ ^4G_{4\frac{1}{2}}$	
5497. 374	10h	18185. 47	0. 08	$a \ ^4F_{4\frac{1}{2}} - y \ ^4D_{3\frac{1}{2}}$	
5504. 224	15	18162. 83	-0. 01	$a \ ^4G_{5\frac{1}{2}} - z \ ^6P_{3\frac{1}{2}}$	
5505. 877	50	18157. 38	0. 01	$a \ ^6D_{1\frac{1}{2}} - y \ ^6P_{2\frac{1}{2}}$	
5510. 190	1	18143. 16	0. 01	$a \ ^4G_{4\frac{1}{2}} - z \ ^6F_{4\frac{1}{2}}$	
5516. 777	100	18121. 50	0. 00	$a \ ^6D_{1\frac{1}{2}} - y \ ^6P_{1\frac{1}{2}}$	6
5520. 496	10h	18109. 29	-0. 03	$z \ ^4F_{3\frac{1}{2}} - e \ ^4G_{3\frac{1}{2}}$	
5533. 156	5s	18067. 86	0. 02	$a \ ^4F_{3\frac{1}{2}} - y \ ^4D_{2\frac{1}{2}}$	
5536. 471	8h	18057. 04	-0. 04	$z \ ^4F_{3\frac{1}{2}} - e \ ^4G_{2\frac{1}{2}}$	
5537. 749	100	18052. 88	0. 05	$a \ ^6D_{0\frac{1}{2}} - y \ ^6P_{1\frac{1}{2}}$	4
5551. 978	80w	18006. 60	0. 00	$z \ ^4F_{4\frac{1}{2}} - e \ ^4G_{5\frac{1}{2}}$	
5555. 782	3s	17994. 29	0. 06	$a \ ^4F_{2\frac{1}{2}} - y \ ^4D_{2\frac{1}{2}}$	
5567. 764	50	17955. 55	-0. 04	$z \ ^4F_{3\frac{1}{2}} - e \ ^4G_{4\frac{1}{2}}$	
5573. 010	30	17938. 67	0. 03	$z \ ^4F_{1\frac{1}{2}} - e \ ^4G_{2\frac{1}{2}}$	
5573. 690	40	17936. 48	0. 00	$z \ ^4F_{2\frac{1}{2}} - e \ ^4G_{3\frac{1}{2}}$	
5575. 242	1	17931. 46	0. 06	$a \ ^4F_{4\frac{1}{2}} - x \ ^6D_{3\frac{1}{2}}$	
5602. 046	5	17845. 68	-0. 01	$z \ ^4F_{4\frac{1}{2}} - e \ ^6G_{5\frac{1}{2}}$	
5603. 08	1	17842. 38	-0. 12	$a \ ^4F_{3\frac{1}{2}} - x \ ^6D_{2\frac{1}{2}}$	
5607. 355	1	17828. 78	0. 05	$a \ ^4F_{3\frac{1}{2}} - x \ ^6D_{3\frac{1}{2}}$	
5626. 247	3	17768. 93	0. 04	$a \ ^4F_{2\frac{1}{2}} - x \ ^6D_{1\frac{1}{2}, 2\frac{1}{2}}$	
5642. 394	1	17718. 07	0. 02	$a \ ^4F_{1\frac{1}{2}} - x \ ^6D_{0\frac{1}{2}}$	
5658. 395	1	17667. 97	0. 05	$b \ ^4G_{3\frac{1}{2}} - w \ ^4P_{3\frac{1}{2}}$	
5687. 133	1	17578. 68	-0. 05	$b \ ^4G_{2\frac{1}{2}} - w \ ^4P_{1\frac{1}{2}}$	
5718. 236	2h	17483. 07	0. 00	$z \ ^4D_{2\frac{1}{2}} - e \ ^4F_{3\frac{1}{2}}$	
5720. 233	2h	17476. 97	-0. 19	$z \ ^4D_{3\frac{1}{2}} - e \ ^4F_{4\frac{1}{2}}$	
5738. 286	30	17422. 00	-0. 05	$a \ ^4H_{6\frac{1}{2}} - z \ ^4G_{5\frac{1}{2}}$	
5780. 173	25	17295. 74	-0. 01	$a \ ^4H_{5\frac{1}{2}} - z \ ^4G_{4\frac{1}{2}}$	
5782. 307	1h	17289. 34	-0. 26	$a \ ^2G_{3\frac{1}{2}} - y \ ^4H_{3\frac{1}{2}}$	
5816. 840	20	17186. 71	0. 00	$a \ ^4H_{4\frac{1}{2}} - z \ ^4G_{3\frac{1}{2}}$	
5822. 55	3	17169. 86	-0. 09	$z \ ^4G_{5\frac{1}{2}} - f \ ^4G_{4\frac{1}{2}}$	
5835. 372	5	17132. 12	0. 03	$z \ ^4G_{5\frac{1}{2}} - f \ ^4G_{5\frac{1}{2}}$	
5848. 950	15	17092. 36	0. 00	$a \ ^4H_{3\frac{1}{2}} - z \ ^4G_{2\frac{1}{2}}$	
5868. 18	2	17036. 35	0. 09	$x \ ^6P_{3\frac{1}{2}} - e \ ^6F_{4\frac{1}{2}}$	
5879. 18	2	17004. 47	-0. 09	$y \ ^6P_{2\frac{1}{2}} - f \ ^6D_{3\frac{1}{2}}$	
5973. 867	2	16734. 95	0. 05	$b \ ^4D_{2\frac{1}{2}} - y \ ^4P_{1\frac{1}{2}}$	
6013. 484	100	16624. 70	0. 09	$z \ ^6P_{1\frac{1}{2}} - e \ ^6S_{2\frac{1}{2}}$	4
6014. 385	20s	16622. 21	-0. 02	$a \ ^4F_{4\frac{1}{2}} - z \ ^4G_{5\frac{1}{2}}$	
6016. 697	150	16615. 82	-0. 06	$z \ ^6P_{2\frac{1}{2}} - e \ ^6S_{2\frac{1}{2}}$	6
6021. 787	200	16601. 78	0. 10	$z \ ^6P_{3\frac{1}{2}} - e \ ^6S_{2\frac{1}{2}}$	4
6041. 730	8s	16546. 98	0. 06	$b \ ^4D_{3\frac{1}{2}} - y \ ^4P_{2\frac{1}{2}}$	
6057. 120	15s	16504. 94	0. 04	$a \ ^4F_{3\frac{1}{2}} - z \ ^4G_{4\frac{1}{2}}$	
6062. 885	3s	16489. 24	0. 00	$a \ ^4F_{3\frac{1}{2}} - z \ ^4G_{3\frac{1}{2}}$	
6090. 080	10s	16415. 61	-0. 02	$a \ ^4F_{2\frac{1}{2}} - z \ ^4G_{3\frac{1}{2}}$	
6095-656	2s	16400. 60	-0. 05	$a \ ^4F_{2\frac{1}{2}} - z \ ^4G_{2\frac{1}{2}}$	
6114. 324	8s	16350. 52	-0. 06	$a \ ^4F_{1\frac{1}{2}} - z \ ^4G_{3\frac{1}{2}}$	
6177. 5	2	16183. 31	-0. 08	$e \ ^6D_{3\frac{1}{2}} - w \ ^4H_{3\frac{1}{2}}$	
6265. 627	10s	15955. 69	-0. 03	$a \ ^4H_{6\frac{1}{2}} - z \ ^4H_{5\frac{1}{2}}$	
6315. 064	10s	15830. 78	-0. 01	$a \ ^4H_{5\frac{1}{2}} - z \ ^4H_{3\frac{1}{2}}$	
6344. 133	30	15758. 23	0. 04	$b \ ^4D_{0\frac{1}{2}} - z \ ^4D_{0\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o-e$	Term designation	Zeeman type
Air		K	K		
6349. 795	15	15744. 19	-0. 03	<i>b</i> $^4D_{1\frac{1}{2}}$ — <i>z</i> $^4D_{0\frac{1}{2}}$	
6356. 095	8s	15728. 59	-0. 10	<i>a</i> $^4H_{4\frac{1}{2}}$ — <i>z</i> $^4H_{4\frac{1}{2}}$	
6378. 969	20	15672. 19	0. 04	<i>b</i> $^4D_{0\frac{1}{2}}$ — <i>z</i> $^4D_{1\frac{1}{2}}$	
6382. 195	25	15664. 27	-0. 01	<i>b</i> $^4D_{2\frac{1}{2}}$ — <i>z</i> $^4D_{1\frac{1}{2}}$	
6384. 686	30	15658. 16	-0. 02	<i>b</i> $^4D_{1\frac{1}{2}}$ — <i>z</i> $^4D_{1\frac{1}{2}}$	
6391. 248	7s	15642. 08	-0. 11	<i>a</i> $^4H_{3\frac{1}{2}}$ — <i>z</i> $^4H_{3\frac{1}{2}}$	
6413. 947	2	15586. 72	0. 00	<i>b</i> $^4D_{3\frac{1}{2}}$ — <i>z</i> $^4D_{2\frac{1}{2}}$	
6440. 973	50	15521. 32	0. 00	<i>b</i> $^4D_{2\frac{1}{2}}$ — <i>z</i> $^4D_{2\frac{1}{2}}$	
6443. 511	20	15515. 21	-0. 01	<i>b</i> $^4D_{1\frac{1}{2}}$ — <i>z</i> $^4D_{3\frac{1}{2}}$	
6483. 061	2s	15420. 56	-0. 02	<i>a</i> $^4F_{4\frac{1}{2}}$ — <i>y</i> $^4F_{3\frac{1}{2}}$	
6590. 61	3	15402. 62	0. 02	<i>a</i> $^4F_{4\frac{1}{2}}$ — <i>y</i> $^4F_{4\frac{1}{2}}$	
6491. 697	50	15400. 04	-0. 02	<i>b</i> $^4D_{3\frac{1}{2}}$ — <i>z</i> $^4D_{3\frac{1}{2}}$	
6519. 381	20	15334. 65	-0. 01	<i>b</i> $^4D_{2\frac{1}{2}}$ — <i>z</i> $^4D_{3\frac{1}{2}}$	
6520. 548	2h	15331. 90	0. 04	<i>a</i> $^4F_{3\frac{1}{2}}$ — <i>y</i> $^4F_{2\frac{1}{2}}$	
6526. 528	8	15317. 86	-0. 05	<i>a</i> $^4F_{3\frac{1}{2}}$ — <i>y</i> $^4F_{3\frac{1}{2}}$	
6534. 103	6HH	15300. 10	0. 17	<i>a</i> $^4F_{3\frac{1}{2}}$ — <i>y</i> $^4F_{4\frac{1}{2}}$	
6547. 715	2h	15268. 29	0. 00	<i>a</i> $^4F_{2\frac{1}{2}}$ — <i>y</i> $^4F_{1\frac{1}{2}}$	
6552. 035	5	15258. 23	-0. 02	<i>a</i> $^4F_{2\frac{1}{2}}$ — <i>y</i> $^4F_{2\frac{1}{2}}$	
6558. 016	2h	15244. 31	0. 01	<i>a</i> $^4F_{2\frac{1}{2}}$ — <i>y</i> $^4F_{3\frac{1}{2}}$	
6569. 267	5	15218. 20	-0. 02	<i>a</i> $^4F_{1\frac{1}{2}}$ — <i>y</i> $^4F_{1\frac{1}{2}}$	
6570. 807	7HH	15214. 64	-0. 06	<i>y</i> $^6P_{1\frac{1}{2}}^o$ — <i>g</i> $^6S_{2\frac{1}{2}}$	
6572. 936	2s	15209. 71	-0. 29	<i>y</i> $^6F_{5\frac{1}{2}}^o$ — <i>e</i> $^4F_{4\frac{1}{2}}$ ?	
6573. 589	1h	15208. 20	0. 02	<i>a</i> $^4F_{1\frac{1}{2}}$ — <i>y</i> $^4F_{2\frac{1}{2}}$	
6586. 316	8HH	15178. 81	-0. 02	<i>y</i> $^6P_{3\frac{1}{2}}^o$ — <i>g</i> $^6S_{2\frac{1}{2}}$	
6605. 549	10HH	15134. 62	-0. 09	<i>y</i> $^6P_{3\frac{1}{2}}^o$ — <i>g</i> $^6S_{2\frac{1}{2}}$	
6827. 161	3h	14643. 34	0. 08	<i>z</i> $^6P_{2\frac{1}{2}}^o$ — <i>e</i> $^6S_{3\frac{1}{2}}$	
6833. 793	5h	14629. 13	-0. 18	<i>z</i> $^6D_{3\frac{1}{2}}^o$ — <i>e</i> $^4D_{2\frac{1}{2}}$	
6833. 936	10h	14628. 83	-0. 23	<i>z</i> $^6P_{3\frac{1}{2}}^o$ — <i>e</i> $^6S_{3\frac{1}{2}}$	
6863. 08	4H	14566. 71	-0. 02	<i>z</i> $^6D_{4\frac{1}{2}}^o$ — <i>i</i> $^6D_{3\frac{1}{2}}$	
6867. 18	3HH	14558. 01	-0. 14	<i>z</i> $^6D_{3\frac{1}{2}}^o$ — <i>i</i> $^6D_{2\frac{1}{2}}$	
6880. 64	5H	14529. 53	0. 09	<i>z</i> $^6D_{3\frac{1}{2}}^o$ — <i>e</i> $^4D_{3\frac{1}{2}}$	
6887. 73	15s	14514. 57	0. 37	<i>z</i> $^6D_{2\frac{1}{2}}^o$ — <i>i</i> $^6D_{1\frac{1}{2}}$	
6890. 764	1HHH	14508. 18	-0. 04	<i>z</i> $^6D_{2\frac{1}{2}}^o$ — <i>e</i> $^4D_{2\frac{1}{2}}$	
6924. 690	3H	14437. 10	0. 04	<i>z</i> $^6D_{2\frac{1}{2}}^o$ — <i>i</i> $^6D_{2\frac{1}{2}}$	
6931. 165	10H	14423. 62	0. 05	<i>z</i> $^6D_{3\frac{1}{2}}^o$ — <i>i</i> $^6D_{3\frac{1}{2}}$	
6933. 654	3HH	14418. 44	0. 06	<i>z</i> $^6D_{1\frac{1}{2}}^o$ — <i>e</i> $^4D_{2\frac{1}{2}}$	
6938. 486	4H	14408. 40	0. 05	<i>z</i> $^6D_{2\frac{1}{2}}^o$ — <i>e</i> $^4D_{3\frac{1}{2}}$	
6941. 045	2H	14403. 09	{0. 10 0. 02}	<i>b</i> $^4D_{0\frac{1}{2}}$ — <i>z</i> $^4F_{1\frac{1}{2}}$ <i>z</i> $^6D_{0\frac{1}{2}}^o$ — <i>e</i> $^4D_{1\frac{1}{2}}$	
6942. 538	20H	14399. 99	0. 02	<i>z</i> $^6D_{4\frac{1}{2}}^o$ — <i>i</i> $^6D_{4\frac{1}{2}}$	
6947. 828	1	14389. 02	0. 00	<i>b</i> $^4D_{1\frac{1}{2}}$ — <i>z</i> $^4F_{1\frac{1}{2}}^o$	
6957. 328	1h	14369. 37	0. 00	<i>z</i> $^6D_{0\frac{1}{2}}^o$ — <i>i</i> $^6D_{1\frac{1}{2}}$	
6960. 942	1h	14361. 91	0. 05	<i>y</i> $^6F_{2\frac{1}{2}}^o$ — <i>e</i> $^4G_{3\frac{1}{2}}$	
6968. 062	3HH	14347. 24	0. 02	<i>z</i> $^6D_{1\frac{1}{2}}^o$ — <i>i</i> $^6D_{2\frac{1}{2}}$	
6970. 567	1	14342. 09	0. 01	<i>b</i> $^4D_{3\frac{1}{2}}^o$ — <i>z</i> $^4F_{2\frac{1}{2}}^o$	
6989. 914	15h	14302. 39	-0. 09	<i>z</i> $^6D_{2\frac{1}{2}}^o$ — <i>i</i> $^6D_{3\frac{1}{2}}$	
7002. 50	4s	14276. 68	0. 00	<i>b</i> $^4D_{2\frac{1}{2}}$ — <i>z</i> $^4F_{2\frac{1}{2}}^o$	
7005. 500	2s	14270. 57	-0. 01	<i>b</i> $^4D_{1\frac{1}{2}}^o$ — <i>z</i> $^4F_{2\frac{1}{2}}^o$	
7012. 256	10H	14256. 82	0. 01	<i>z</i> $^6D_{3\frac{1}{2}}^o$ — <i>i</i> $^6D_{4\frac{1}{2}}$	
7013. 15	2H	14255. 00	0. 01	<i>y</i> $^6F_{0\frac{1}{2}}^o$ — <i>e</i> $^6G_{1\frac{1}{2}}$	
7014. 09	1H	14253. 09	0. 04	<i>y</i> $^6F_{3\frac{1}{2}}^o$ — <i>e</i> $^4G_{4\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—c	Term designation	Zeeman type
Å		K	K		
Air					
7033. 555	1HHH	14213. 65	0. 04	$y \ ^6F_{1\frac{1}{2}} - e \ ^6G_{2\frac{1}{2}}$	
7055. 583	4s	14169. 27	0. 03	$b \ ^4D_{3\frac{1}{2}} - z \ ^4F_{3\frac{1}{2}}$	
7062. 42	1HH	14155. 55	-0. 02	$y \ ^6F_{2\frac{1}{2}} - e \ ^6G_{3\frac{1}{2}}$	
7069. 834	20s	14140. 71	0. 02	$b \ ^4G_{5\frac{1}{2}} - z \ ^4G_{5\frac{1}{2}}$	
7076. 553	2H	14127. 28	-0. 07	$y \ ^6F_{2\frac{1}{2}} - e \ ^4G_{3\frac{1}{2}}$	
7077. 145	1	14126. 10	0. 07	$b \ ^4G_{5\frac{1}{2}} - z \ ^4G_{4\frac{1}{2}}$	
7088. 288	3s	14103. 89	0. 05	$b \ ^4D_{2\frac{1}{2}} - z \ ^4F_{3\frac{1}{2}}$	
7103. 010	2HH	14074. 66	0. 02	$y \ ^6F_{3\frac{1}{2}} - e \ ^6G_{4\frac{1}{2}}$	
7151. 267	5HH	13979. 69	0. 03	$y \ ^6F_{5\frac{1}{2}} - e \ ^6G_{6\frac{1}{2}}$	
7158. 039	2HH	13966. 46	0. 02	$y \ ^6F_{2\frac{1}{2}} - e \ ^6G_{5\frac{1}{2}}$	
7174. 420	4s	13934. 57	0. 02	$b \ ^4D_{3\frac{1}{2}} - z \ ^4F_{4\frac{1}{2}}$	
7176. 705	2h	13930. 14	-0. 17	$b \ ^4G_{4\frac{1}{2}} - z \ ^4G_{5\frac{1}{2}}$	
7184. 29	15s	13915. 43	-0. 22	$b \ ^4G_{4\frac{1}{2}} - z \ ^4G_{4\frac{1}{2}}$	
7192. 363	1h	13899. 81	-0. 18	$b \ ^4G_{4\frac{1}{2}} - z \ ^4G_{3\frac{1}{2}}$	
7211. 93	2	13862. 17	0. 00	$y \ ^6F_{4\frac{1}{2}} - e \ ^6F_{4\frac{1}{2}}$	
7239. 600	3s	13809. 02	-0. 03	$b \ ^4G_{3\frac{1}{2}} - z \ ^4G_{4\frac{1}{2}}$	
7247. 821	10s	13793. 45	0. 06	$b \ ^4G_{3\frac{1}{2}} - z \ ^4G_{3\frac{1}{2}}$	
7275. 690	1	13740. 62	-0. 06	$b \ ^4G_{2\frac{1}{2}} - z \ ^4G_{3\frac{1}{2}}$	
7283. 80	100	13725. 32	-0. 05	$y \ ^6P_{1\frac{1}{2}} - f \ ^6S_{2\frac{1}{2}}$	
7287. 10	1HH	13719. 10	-0. 05	$a \ ^6D_{3\frac{1}{2}} - z \ ^4P_{2\frac{1}{2}}$	
7301. 38	1HH	13692. 27	0. 08	$y \ ^6F_{5\frac{1}{2}} - e \ ^6F_{5\frac{1}{2}}$	
7302. 89	300	13689. 44	-0. 06	$y \ ^6P_{2\frac{1}{2}} - f \ ^6S_{2\frac{1}{2}}$	
7322. 205	1	13653. 34	0. 06	$a \ ^4H_{5\frac{1}{2}} - y \ ^6D_{4\frac{1}{2}}$	
7326. 500	400	13645. 33	-0. 05	$y \ ^6P_{3\frac{1}{2}} - f \ ^6S_{2\frac{1}{2}}$	
7376. 85	3	13552. 19	-0. 04	$a \ ^2H_{5\frac{1}{2}} - z \ ^4G_{5\frac{1}{2}}$	
7378. 98	1	13548. 28	-0. 05	$z \ ^6D_{1\frac{1}{2}} - h \ ^6D_{1\frac{1}{2}}$	
7443. 50	1	13430. 85	0. 23	$a \ ^4H_{4\frac{1}{2}} - y \ ^6D_{3\frac{1}{2}}$	
7446. 16	1	13426. 05	-0. 04	$a \ ^2H_{4\frac{1}{2}} - z \ ^4G_{4\frac{1}{2}}$	
7667. 89	1H	13037. 81	-0. 06	$z \ ^6F_{3\frac{1}{2}} - e \ ^4D_{2\frac{1}{2}}$	
7670. 42	2H	13033. 51	0. 01	$z \ ^6F_{4\frac{1}{2}} - e \ ^4D_{3\frac{1}{2}}$	
7677. 46	2Hl	13021. 56	-0. 05	$z \ ^6F_{1\frac{1}{2}} - i \ ^6D_{0\frac{1}{2}}$	
7680. 22	50H	13016. 88	0. 02	$z \ ^4F_{4\frac{1}{2}} - f \ ^4D_{3\frac{1}{2}}$	
7706. 52	1HHH	12972. 46	0. 03	$z \ ^6F_{2\frac{1}{2}} - i \ ^6D_{1\frac{1}{2}}$	
7709. 98	3HHH	12966. 64	{ 0. 19 -0. 07	$z \ ^6F_{2\frac{1}{2}} - e \ ^4D_{2\frac{1}{2}}$ $z \ ^6F_{3\frac{1}{2}} - i \ ^6D_{2\frac{1}{2}}$	
7712. 42	10H	12962. 54	0. 02	$z \ ^4F_{3\frac{1}{2}} - f \ ^4D_{2\frac{1}{2}}$	
7727. 07	1H	12937. 96	-0. 04	$z \ ^6F_{3\frac{1}{2}} - e \ ^4D_{3\frac{1}{2}}$	
7733. 24	10H	12927. 64	0. 01	$z \ ^6F_{4\frac{1}{2}} - i \ ^6D_{3\frac{1}{2}}$	
7734. 43	5H	12925. 66	0. 05	$z \ ^4F_{3\frac{1}{2}} - f \ ^4D_{1\frac{1}{2}}$	
7735. 77	1H	12923. 41	-0. 07	$z \ ^6F_{1\frac{1}{2}} - i \ ^6D_{1\frac{1}{2}}$	
7737. 16	3s	12921. 09	0. 03	$b \ ^4G_{5\frac{1}{2}} - y \ ^4F_{4\frac{1}{2}}$	
7752. 67	1HH	12895. 24	{ -0. 03 -0. 05	$z \ ^6F_{0\frac{1}{2}} - i \ ^6D_{1\frac{1}{2}}$ $z \ ^6F_{2\frac{1}{2}} - i \ ^6D_{2\frac{1}{2}}$	
7755. 15	3HHH	12891. 11	0. 01	$z \ ^4F_{1\frac{1}{2}} - f \ ^4D_{0\frac{1}{2}}$	
7764. 72	50H	12875. 23	0. 01	$z \ ^6F_{5\frac{1}{2}} - i \ ^6D_{4\frac{1}{2}}$	
7782. 2	1h	12846. 3	0. 0	$z \ ^6F_{1\frac{1}{2}} - i \ ^6D_{2\frac{1}{2}}$	
7790. 82	3H	12832. 10	-0. 03	$z \ ^6F_{3\frac{1}{2}} - i \ ^6D_{3\frac{1}{2}}$	
7806. 00	1HHH	12807. 14	-0. 03	$z \ ^4F_{1\frac{1}{2}} - f \ ^4D_{1\frac{1}{2}}$	
7816. 61	3H	12789. 76	0. 08	$z \ ^4F_{2\frac{1}{2}} - f \ ^4D_{2\frac{1}{2}}$	
7821. 25	3H	12782. 17	0. 00	$z \ ^4F_{3\frac{1}{2}} - f \ ^4D_{3\frac{1}{2}}$	
7834. 34	10h	12760. 81	{ 0. 10 -0. 06	$z \ ^6F_{2\frac{1}{2}} - i \ ^6D_{3\frac{1}{2}}$ $z \ ^6F_{4\frac{1}{2}} - i \ ^6D_{4\frac{1}{2}}$	
7854. 24	3	12728. 48	-0. 18	$b \ ^4G_{4\frac{1}{2}} - y \ ^4F_{3\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$\text{o-e}$	Term designation	Zeeman type
Å Air		<i>K</i>	<i>K</i>		
7865.36	2	12710.48	-0.20	<i>b</i> ${}^4\text{G}_{1\frac{1}{2}}$ — <i>y</i> ${}^4\text{F}_{1\frac{1}{2}}$	
7889.61	1 <i>h</i>	12671.42	0.18	<i>z</i> ${}^4\text{F}_{1\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{2\frac{1}{2}}$	
7911.68	2	12636.07	0.06	<i>b</i> ${}^4\text{G}_{3\frac{1}{2}}$ — <i>y</i> ${}^4\text{F}_{3\frac{1}{2}}$	
7920.44	2	12622.10	0.04	<i>b</i> ${}^4\text{G}_{3\frac{1}{2}}$ — <i>y</i> ${}^4\text{F}_{3\frac{1}{2}}$	
7928.45	4	12609.34	0.01	<i>z</i> ${}^4\text{F}_{2\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{3\frac{1}{2}}$	
7938.52	2	12593.35	0.01	<i>b</i> ${}^4\text{G}_{2\frac{1}{2}}$ — <i>y</i> ${}^4\text{F}_{1\frac{1}{2}}$	
8043.37	8	12429.18	0.00	<i>a</i> ${}^4\text{D}_{3\frac{1}{2}}$ — <i>y</i> ${}^6\text{P}_{2\frac{1}{2}}$	
8194.06	1	12200.61	-0.15	<i>z</i> ${}^4\text{H}_{6\frac{1}{2}}$ — <i>e</i> ${}^4\text{G}_{5\frac{1}{2}}$	
8210.16	2	12176.69	0.04	<i>a</i> ${}^4\text{D}_{2\frac{1}{2}}$ — <i>y</i> ${}^6\text{P}_{2\frac{1}{2}}$	
8212.43	40 <i>h</i>	12173.32	0.00	<i>z</i> ${}^4\text{F}_{3\frac{1}{2}}$ — <i>e</i> ${}^4\text{D}_{3\frac{1}{2}}$	
8234.43	1	12140.80	0.02	<i>a</i> ${}^4\text{D}_{2\frac{1}{2}}$ — <i>y</i> ${}^6\text{P}_{1\frac{1}{2}}$	
8251.64	5 <i>h</i>	12115.48	0.04	<i>b</i> ${}^4\text{P}_{2\frac{1}{2}}$ — <i>z</i> ${}^4\text{D}_{2\frac{1}{2}}$	
8284.48	4 <i>h</i>	12067.45	0.00	<i>z</i> ${}^4\text{F}_{1\frac{1}{2}}$ — <i>l</i> ${}^6\text{D}_{3\frac{1}{2}}$	
8304.42	5 <i>Hl</i>	12038.48	-0.02	<i>z</i> ${}^4\text{F}_{3\frac{1}{2}}$ — <i>e</i> ${}^4\text{D}_{2\frac{1}{2}}$	
8353.79	2 <i>H</i>	11967.33	-0.01	<i>z</i> ${}^4\text{F}_{3\frac{1}{2}}$ — <i>l</i> ${}^6\text{D}_{2\frac{1}{2}}$	
8373.93	4 <i>h</i>	11938.54	-0.09	<i>z</i> ${}^4\text{F}_{3\frac{1}{2}}$ — <i>e</i> ${}^4\text{D}_{3\frac{1}{2}}$	
8380.77	40	11928.80	0.02	<i>b</i> ${}^4\text{P}_{2\frac{1}{2}}$ — <i>z</i> ${}^4\text{D}_{3\frac{1}{2}}$	
8395.87	10 <i>H</i>	11907.35	-0.09	<i>e</i> ${}^6\text{S}_{2\frac{1}{2}}$ — <i>l</i> ${}^6\text{P}_{1\frac{1}{2}}$	
8409.88	15 <i>H</i>	11887.51	-0.14	<i>e</i> ${}^6\text{S}_{2\frac{1}{2}}$ — <i>t</i> ${}^6\text{P}_{2\frac{1}{2}}$	
8421.12	2 <i>H</i>	11871.65	0.01	<i>z</i> ${}^4\text{F}_{2\frac{1}{2}}$ — <i>t</i> ${}^6\text{D}_{1\frac{1}{2}}$	
8431.20	20 <i>H</i>	11857.45	-0.04	<i>e</i> ${}^6\text{S}_{2\frac{1}{2}}$ — <i>l</i> ${}^6\text{P}_{3\frac{1}{2}}$	
8476.3	1 <i>H</i>	11794.4	-0.1	<i>z</i> ${}^4\text{F}_{2\frac{1}{2}}$ — <i>t</i> ${}^6\text{D}_{2\frac{1}{2}}$	
8481.70	3	11786.85	-0.05	<i>z</i> ${}^4\text{F}_{1\frac{1}{2}}$ — <i>e</i> ${}^4\text{D}_{1\frac{1}{2}}$	
8506.0	1 <i>H</i>	11753.18	-0.02	<i>z</i> ${}^4\text{F}_{1\frac{1}{2}}$ — <i>t</i> ${}^6\text{D}_{1\frac{1}{2}}$	
8521.57	10 <i>h</i>	11731.71	0.01	<i>z</i> ${}^4\text{D}_{3\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{2\frac{1}{2}}$	
8558.63	8 <i>h</i>	11680.91	-0.06	<i>z</i> ${}^4\text{D}_{3\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{1\frac{1}{2}}$	
8600.34	5 <i>H</i>	11624.26	-0.07	<i>z</i> ${}^6\text{F}_{5\frac{1}{2}}$ — <i>g</i> ${}^6\text{D}_{4\frac{1}{2}}$	
8602.1	2 <i>H</i>	11621.9	0.0	<i>z</i> ${}^4\text{D}_{3\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{0\frac{1}{2}}$	
8603.03	5	11620.62	0.10	<i>b</i> ${}^4\text{P}_{1\frac{1}{2}}$ — <i>z</i> ${}^4\text{D}_{1\frac{1}{2}}$	
8654.63	40 <i>h</i>	11551.34	-0.01	<i>z</i> ${}^4\text{D}_{3\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{3\frac{1}{2}}$	
8659.38	10 <i>h</i>	11545.00	-0.04	<i>z</i> ${}^4\text{D}_{3\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{2\frac{1}{2}}$	
8664.6	2 <i>h</i>	11538.0	0.0	<i>z</i> ${}^4\text{D}_{1\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{1\frac{1}{2}}$	
8666.3	2 <i>h</i>	11535.8	-0.1	<i>z</i> ${}^4\text{D}_{0\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{0\frac{1}{2}}$	
8670.92	200 <i>c</i>	11529.74	0.08	<i>y</i> ${}^6\text{P}_{1\frac{1}{2}}$ — <i>o</i> ${}^6\text{D}_{0\frac{1}{2}}$	
8672.06	300 <i>c</i>	11528.12	-0.05	<i>y</i> ${}^6\text{P}_{1\frac{1}{2}}$ — <i>e</i> ${}^6\text{D}_{1\frac{1}{2}}$	
8673.97	200 <i>c</i>	11525.58	-0.05	<i>y</i> ${}^6\text{P}_{1\frac{1}{2}}$ — <i>e</i> ${}^6\text{D}_{2\frac{1}{2}}$	
8680.24	2 <i>h</i>	11517.26	-0.25	<i>z</i> ${}^6\text{F}_{3\frac{1}{2}}$ — <i>g</i> ${}^6\text{D}_{3\frac{1}{2}}$	
8699.13	100 <i>c</i>	11492.25	-0.05	<i>y</i> ${}^6\text{P}_{2\frac{1}{2}}$ — <i>e</i> ${}^6\text{D}_{1\frac{1}{2}}$	
8701.05	300 <i>c</i>	11489.71	-0.05	<i>y</i> ${}^6\text{P}_{3\frac{1}{2}}$ — <i>e</i> ${}^6\text{D}_{2\frac{1}{2}}$	
8703.76	500 <i>cw</i>	11486.14	-0.07	<i>y</i> ${}^6\text{P}_{2\frac{1}{2}}$ — <i>e</i> ${}^6\text{D}_{3\frac{1}{2}}$	
8710.21	10	11477.63	0.07	<i>b</i> ${}^4\text{P}_{1\frac{1}{2}}$ — <i>z</i> ${}^4\text{D}_{2\frac{1}{2}}$	
8717.29	2 <i>h</i>	11468.31	0.15	<i>x</i> ${}^6\text{P}_{3\frac{1}{2}}$ — <i>e</i> ${}^4\text{D}_{3\frac{1}{2}}$	
8729.80	2 <i>h</i>	11451.80	-0.17	<i>z</i> ${}^4\text{D}_{0\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{1\frac{1}{2}}$	
8734.60	30 <i>c</i>	11445.58	-0.06	<i>y</i> ${}^6\text{P}_{3\frac{1}{2}}$ — <i>e</i> ${}^6\text{D}_{2\frac{1}{2}}$	
8737.32	300 <i>c</i>	11442.02	-0.07	<i>y</i> ${}^6\text{P}_{3\frac{1}{2}}$ — <i>e</i> ${}^6\text{D}_{3\frac{1}{2}}$	
8740.93	1000 <i>cw</i>	11437.29	-0.02	<i>y</i> ${}^6\text{P}_{3\frac{1}{2}}$ — <i>e</i> ${}^6\text{D}_{4\frac{1}{2}}$	
8767.96	5 <i>h</i>	11402.03	-0.05	<i>z</i> ${}^4\text{D}_{1\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{2\frac{1}{2}}$	
8796.83	6 <i>h</i>	11364.61	-0.08	<i>z</i> ${}^4\text{D}_{2\frac{1}{2}}$ — <i>f</i> ${}^4\text{D}_{3\frac{1}{2}}$	
8798.66	3 <i>h</i>	11362.25	{-0.04 0.10}	<i>x</i> ${}^6\text{P}_{3\frac{1}{2}}$ — <i>t</i> ${}^6\text{D}_{3\frac{1}{2}}$	
8820.26	4 <i>h</i>	11334.43	-0.25	<i>y</i> ${}^8\text{P}_{4\frac{1}{2}}$ — <i>e</i> ${}^8\text{P}_{4\frac{1}{2}}$	
8827.83	3	11324.70	0.03	<i>b</i> ${}^4\text{P}_{0\frac{1}{2}}$ — <i>z</i> ${}^4\text{D}_{0\frac{1}{2}}$	
8842.48	3 <i>h</i>	11305.94	-0.03	<i>x</i> ${}^6\text{P}_{2\frac{1}{2}}$ — <i>e</i> ${}^4\text{D}_{3\frac{1}{2}}$	
8895.9	4	11238.72	0.09	<i>b</i> ${}^4\text{P}_{0\frac{1}{2}}$ — <i>z</i> ${}^4\text{D}_{1\frac{1}{2}}$	
8901.0	2 <i>p</i>	11231.6	0.0	<i>x</i> ${}^6\text{P}_{1\frac{1}{2}}$ — <i>t</i> ${}^6\text{D}_{2\frac{1}{2}}$	
8926.06	15 <i>h</i>	11200.08	-0.02	<i>x</i> ${}^6\text{P}_{2\frac{1}{2}}$ — <i>t</i> ${}^6\text{D}_{3\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	$o-e$	Term designation	Zeeman type
Å Air		K	K		
8929. 72	60h	11195. 49	-0. 04	$x \ ^6P_{3\frac{1}{2}} - i \ ^6D_{4\frac{1}{2}}$	
8932. 96	2	11191. 43	0. 03	$y \ ^8P_{4\frac{1}{2}} - e \ ^8P_{3\frac{1}{2}}$	
9084. 29	30	11005. 00	0. 12	$a \ ^4F_{1\frac{1}{2}} - z \ ^4D_{6\frac{1}{2}}$	
9101. 2	3hw	10984. 6	0. 0	$e \ ^8D_{5\frac{1}{2}} - t \ ^6F^o$	
9114. 02	50	10969. 10	0. 19	$a \ ^4F_{2\frac{1}{2}} - z \ ^4D_{1\frac{1}{2}}$	
9155. 85	5	10918. 98	0. 14	$a \ ^4F_{1\frac{1}{2}} - z \ ^4D_{1\frac{1}{2}}$	
9172. 09	100	10899. 66	0. 10	$a \ ^4F_{3\frac{1}{2}} - z \ ^4D_{5\frac{1}{2}}$	
9234. 40	10	10826. 11	0. 16	$a \ ^4F_{2\frac{1}{2}} - z \ ^4D_{3\frac{1}{2}}$	
9243. 29	150	10815. 69	0. 12	$a \ ^4F_{4\frac{1}{2}} - z \ ^4D_{5\frac{1}{2}}$	
9325. 16	5	10720. 74	-0. 03	$y \ ^4P_{2\frac{1}{2}} - f \ ^4D_{1\frac{1}{2}}$	
9331. 90	20h	10712. 99	0. 09	$a \ ^4F_{3\frac{1}{2}} - z \ ^4D_{3\frac{1}{2}}$	
9336. 47	40h	10707. 75	-0. 06	$z \ ^4D_{3\frac{1}{2}} - e \ ^4D_{3\frac{1}{2}}$	
9412. 78	10h	10620. 94	-0. 08	$z \ ^4D_{2\frac{1}{2}} - e \ ^4D_{2\frac{1}{2}}$	
9429. 58	30h	10602. 02	0. 08	$z \ ^4D_{3\frac{1}{2}} - i \ ^6D_{3\frac{1}{2}}$	
9444. 90	40	10584. 82	-0. 02	$y \ ^4P_{2\frac{1}{2}} - f \ ^4D_{2\frac{1}{2}}$	
9474. 9	2	10551. 3	0. 0	$y \ ^4P_{1\frac{1}{2}} - f \ ^4D_{0\frac{1}{2}}$	
9476. 57	4h	10549. 45	-0. 41	$z \ ^4D_{2\frac{1}{2}} - i \ ^6D_{2\frac{1}{2}}$ ?	
9502. 12	6h	10521. 08	-0. 07	$z \ ^4D_{3\frac{1}{2}} - e \ ^4D_{3\frac{1}{2}}$	
9335. 72	5h	10484. 01	-0. 03	$z \ ^4D_{1\frac{1}{2}} - i \ ^6D_{1\frac{1}{2}}$	
9550. 80	20h	10467. 46	0. 07	$y \ ^4P_{1\frac{1}{2}} - f \ ^4D_{1\frac{1}{2}}$	
9584. 0	10h	10431. 2	-0. 5	$z \ ^4D_{0\frac{1}{2}} - e \ ^4D_{1\frac{1}{2}}$	
9598. 7	3	10415. 2	-0. 1	$z \ ^4D_{2\frac{1}{2}} - i \ ^6D_{3\frac{1}{2}}$	
9606. 71	5h	10406. 54	0. 00	$y \ ^4P_{0\frac{1}{2}} - f \ ^4D_{0\frac{1}{2}}$	
9608. 56	100h	10404. 54	0. 05	$y \ ^4P_{2\frac{1}{2}} - f \ ^4D_{3\frac{1}{2}}$	
9676. 50	40	10331. 49	0. 03	$y \ ^4P_{1\frac{1}{2}} - f \ ^4D_{2\frac{1}{2}}$	
9684. 9	15	10322. 5	-0. 1	$y \ ^4P_{0\frac{1}{2}} - f \ ^4D_{1\frac{1}{2}}$	
9845. 1	5H	10154. 54	0. 0	$e \ ^8D_{5\frac{1}{2}} - u \ ^6F^o$	
10045. 4	4H	9952. 08	-0. 09	$x \ ^6P_{3\frac{1}{2}} - g \ ^6D_{3\frac{1}{2}}$	
10053. 1	10H	9944. 46	-0. 18	$x \ ^6P_{3\frac{1}{2}} - g \ ^6D_{4\frac{1}{2}}$	
10164. 9	2h	9835. 08	-0. 15	$b \ ^2I_{5\frac{1}{2}} - z \ ^8F^o$ ?	
10204. 9	1H	9796. 53	-0. 38	$x \ ^6P_{2\frac{1}{2}} - g \ ^6D_{1\frac{1}{2}}$	
10208. 2	2H	9793. 36	-1. 19	$x \ ^6P_{2\frac{1}{2}} - g \ ^6D_{2\frac{1}{2}}$ ?	
10212. 3	5H	9789. 43	-0. 55	$x \ ^6P_{3\frac{1}{2}} - g \ ^6D_{3\frac{1}{2}}$	
10300. 7	5h	9705. 42	-0. 11	$z \ ^6D_{3\frac{1}{2}} - e \ ^4P_{2\frac{1}{2}}$	
10313. 35	2h	9693. 51	-0. 34	$x \ ^6P_{1\frac{1}{2}} - g \ ^6D_{1\frac{1}{2}}$	
10316. 05	5h	9690. 97	0. 24	$x \ ^6P_{0\frac{1}{2}} - g \ ^6D_{0\frac{1}{2}}$	
10349. 3	2H	9659. 84	0. 0	$e \ ^6D_{4\frac{1}{2}} - u \ ^6F^o$	
10456. 60	3	9560. 72	-0. 23	$y \ ^4P_{2\frac{1}{2}} - e \ ^4D_{3\frac{1}{2}}$	
10561. 2	6h	9465. 94	-0. 44	$x \ ^6P_{3\frac{1}{2}} - h \ ^6S_{2\frac{1}{2}}$ ?	
10621. 9	6	9411. 93	-0. 23	$z \ ^6F_{5\frac{1}{2}} - f \ ^6D_{4\frac{1}{2}}$	
10643. 0	10H	9393. 26	-0. 06	$y \ ^8P_{2\frac{1}{2}} - g \ ^8D_{3\frac{1}{2}}$	
10664. 1	15H	9374. 69	-0. 24	$y \ ^8P_{3\frac{1}{2}} - g \ ^8D_{4\frac{1}{2}}$	
10686. 8	2	9354. 78	-0. 17	$y \ ^4D_{3\frac{1}{2}} - e \ ^4G_{4\frac{1}{2}}$	
10692. 2	20H	9350. 05	0. 10	$y \ ^8P_{4\frac{1}{2}} - g \ ^8D_{5\frac{1}{2}}$	
10745. 32	6h	9303. 83	-0. 36	$x \ ^6P_{2\frac{1}{2}} - h \ ^6S_{2\frac{1}{2}}$	
10856. 08	2h	9208. 91	-0. 23	$z \ ^6F_{3\frac{1}{2}} - f \ ^6D_{2\frac{1}{2}}$	
10865. 85	2h	9200. 63	-0. 50	$x \ ^6P_{1\frac{1}{2}} - h \ ^6S_{2\frac{1}{2}}$	
10938. 65	3h	9139. 40	-0. 11	$z \ ^6F_{2\frac{1}{2}} - f \ ^6D_{1\frac{1}{2}}$	
11163. 3	2	8955. 47	-0. 04	$x \ ^6D_{4\frac{1}{2}} - e \ ^6F_{5\frac{1}{2}}$	
11378. 8	100w	8785. 89	0. 0	$e \ ^8D_{5\frac{1}{2}} - y \ ^8F_{6\frac{1}{2}}$	
11497. 61	40	8695. 08	-0. 15	$e \ ^6S_{2\frac{1}{2}} - v \ ^6P_{1\frac{1}{2}}$	
11613. 24	50	8608. 50	-0. 10	$e \ ^6S_{2\frac{1}{2}} - v \ ^6P_{2\frac{1}{2}}$	
11644. 84	3	8585. 14	-0. 24	$a \ ^4F_{4\frac{1}{2}} - z \ ^6F_{3\frac{1}{2}}$	
11783. 58	60	8484. 07	-0. 08	$e \ ^6S_{2\frac{1}{2}} - v \ ^6P_{3\frac{1}{2}}$	
12899. 7	80	7750. 0	0. 0	$a \ ^6D_{4\frac{1}{2}} - z \ ^6P_{3\frac{1}{2}}$	

TABLE 1. Mn I—*Classified lines*—Continued

1	2	3	4	5	6
$\lambda$	Int.	$\sigma$	o—e	Term designation	Zeeman type
Å Air		<i>K</i>	<i>K</i>		
12975. 9	40	7704. 5	0. 0	<i>a</i> $^4D_{3\frac{1}{2}}$ — <i>z</i> $^4P_{2\frac{1}{2}}$	
13294. 1	50	7520. 1	-0. 1	<i>a</i> $^6D_{3\frac{1}{2}}$ — <i>z</i> $^6P_{3\frac{1}{2}}$	
13317. 9	30	7506. 7	0. 7	<i>a</i> $^6D_{3\frac{1}{2}}$ — <i>z</i> $^6P_{2\frac{1}{2}}$	
13415. 9	80	7451. 8	-0. 2	<i>a</i> $^4D_{2\frac{1}{2}}$ — <i>z</i> $^4P_{2\frac{1}{2}}$	
13500. 1	100	7405. 4	0. 0	<i>a</i> $^4D_{1\frac{1}{2}}$ — <i>z</i> $^4P_{0\frac{1}{2}}$	
13625. 7	200	7337. 1	0. 6	<i>a</i> $^6D_{2\frac{1}{2}}$ — <i>z</i> $^6P_{2\frac{1}{2}}$	
13684. 6	80	7305. 5	-0. 6	<i>a</i> $^4D_{0\frac{1}{2}}$ — <i>z</i> $^4P_{0\frac{1}{2}}$	
13863. 8	100	7211. 1	0. 3	<i>a</i> $^6D_{1\frac{1}{2}}$ — <i>z</i> $^6P_{1\frac{1}{2}}$	
13997. 0	120	7142. 4	0. 2	<i>a</i> $^6D_{0\frac{1}{2}}$ — <i>z</i> $^6P_{0\frac{1}{2}}$	
14969. 9	30	6678. 2	-0. 3	<i>y</i> $^8P_{4\frac{1}{2}}$ — <i>f</i> $^8D_{5\frac{1}{2}}$	
15217. 9	80	6569. 4	-0. 1	<i>e</i> $^8S_{3\frac{1}{2}}$ — <i>y</i> $^8P_{3\frac{1}{2}}$	
15263. 1	200	6550. 0	-0. 1	<i>e</i> $^8S_{3\frac{1}{2}}$ — <i>y</i> $^8P_{2\frac{1}{2}}$	
15964. 9	200	6262. 1	0. 2	<i>e</i> $^8D_{5\frac{1}{2}}$ — <i>z</i> $^8F^{\circ}$	
17335. 2	80	5767. 0	-0. 2	<i>e</i> $^6D_{4\frac{1}{2}}$ — <i>z</i> $^8F^{\circ}$	
17607. 5	20	5677. 9	-0. 2	<i>e</i> $^6S_{2\frac{1}{2}}$ — <i>y</i> $^6P_{2\frac{1}{2}}$	

TABLE 2. *Even terms of Mn I*

Config.	Desig.	<i>J</i>	Level	Interval	Obs. g
$3d^5 4s^2$	<i>a</i> $^6S$	$2\frac{1}{2}$	0. 00		1. 999
$3d^6(a ^5D)4s$	<i>a</i> $^6D$	$4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	17052. 29 17282. 00 17451. 52 17568. 48 17637. 15	-229. 71 -169. 52 -116. 96 -68. 67	1. 559 1. 584 1. 657 1. 866 3. 327
$3d^6(a ^5D)4s$	<i>a</i> $^4D$	$3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	23296. 67 23549. 20 23719. 52 23818. 87	-252. 53 -170. 32 -99. 35	1. 427 1. 368 1. 198 0. 000
$3d^5 4s^2$	<i>a</i> $^4G$	$5\frac{1}{2}$ $4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$	25265. 74 25285. 43 25287. 74 25281. 04	-19. 69 -2. 31 6. 70	1. 270 1. 173
$3d^5 4s^2$	<i>a</i> $^4P$	$2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	27201. 54 27248. 00 27281. 85	-46. 46 -33. 85	1. 597 1. 730 2. 666
$3d^5 4s^2$	<i>b</i> $^4D$	$3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	30354. 21 30419. 61 30425. 71 30411. 74	-65. 40 -6. 10 13. 97	1. 425 1. 38 0. 111
$3d^6(a ^3P)4s$	<i>b</i> $^4P$	$2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	33825. 49 34463. 37 34845. 26	-637. 88 -381. 89	1. 602 1. 730 2. 655
$3d^6(a ^3H)4s$	<i>a</i> $^4H$	$6\frac{1}{2}$ $5\frac{1}{2}$ $4\frac{1}{2}$ $3\frac{1}{2}$	34138. 88 34250. 52 34343. 90 34423. 27	-111. 64 -93. 38 -79. 37	1. 231 1. 135 0. 971 0. 665

TABLE 2. Even terms of Mn I—Continued

Config.	Desig.	J	Level	Interval	Obs. g
$3d^6(a\ ^3F)4s$	$a\ ^4F$	$\frac{4}{2}$ $\frac{3}{2}$ $\frac{2}{2}$ $\frac{1}{2}$	34938. 70 35041. 37 35114. 98 35165. 05	-102. 67 -73. 61 -50. 07	1. 328 1. 238 1. 024 0. 430
$3d^5\ 4s^2$	$a\ ^2I$	$\frac{5}{2}$ $\frac{6}{2}$	37148. 66 37164. 25	15. 59	0. 94
$3d^6(a\ ^3G)4s$	$b\ ^4G$	$\frac{5}{2}$ $\frac{4}{2}$ $\frac{3}{2}$ $\frac{2}{2}$	37420. 24 37630. 62 37737. 22 37789. 93	-210. 58 -106. 40 -52. 71	1. 263 1. 163 0. 989 0. 59
$3d^6(^3P)4s$	$a\ ^2P$	$\frac{1}{2}$ $\frac{0}{2}$	37586. 03 38351. 78	-765. 75	0. 675
$3d^6(a\ ^3H)4s$	$a\ ^2H$	$\frac{5}{2}$ $\frac{4}{2}$	38008. 70 38120. 18	-111. 48	1. 098 0. 914
$3d^6(a\ ^3F)4s$	$a\ ^2F$	$\frac{3}{2}$ $\frac{2}{2}$	38669. 60 38934. 94	-265. 34	1. 128
$3d^5\ 4s(a\ ^7S)5s$	$e\ ^8S$	$\frac{3}{2}$	39431. 31		2. 000
$3d^6(^3G)4s$	$a\ ^2G$	$\frac{4}{2}$ $\frac{3}{2}$	41031. 48 41230. 30	-198. 86	1. 118 0. 88
$3d^5\ 4s(a\ ^7S)5s$	$e\ ^6S$	$\frac{2}{2}$	41403. 93		1. 997
	$b\ ^2I$	$\frac{6}{2}$ $\frac{5}{2}$	43053. 30 43139. 27	-85. 97	1. 07 0. 924
$3d^5\ 4s(a\ ^7S)4d$	$e\ ^8D$	$\frac{11}{2}$ $\frac{9}{2}$ $\frac{7}{2}$ $\frac{5}{2}$ $\frac{3}{2}$	46706. 09 46707. 03 46708. 33 46710. 15 46712. 58	0. 94 1. 30 1. 82 2. 43	
$3d^5\ 4s(a\ ^7S)4d$	$e\ ^6D$	$\frac{4}{2}$ $\frac{3}{2}$ $\frac{2}{2}$ $\frac{1}{2}$ $\frac{0}{2}$	47207. 28 47212. 06 47215. 61 47218. 15 47219. 64	-4. 78 -3. 55 -2. 54 -1. 49	1. 554 1. 581 1. 634 1. 759 3. 934
$3d^5\ 4s(a\ ^5S)5s$	$f\ ^6S$	$\frac{2}{2}$	49415. 35		2. 00
$3d^54s(a\ ^5S)5s$	$e\ ^4S$	$\frac{1}{2}$	49591. 51		1. 998
$3d^54s(a\ ^7S)6s$	$f\ ^8S$	$\frac{3}{2}$	50157. 63		1. 995
$3d^54s(a\ ^7S)6s$	$g\ ^6S$	$\frac{2}{2}$	50904. 68		
$3d^7$	$e\ ^4P$	$\frac{2}{2}$ $\frac{1}{2}$ $\frac{0}{2}$	51638. 17 51718. 22 51787. 92	-80. 05 -69. 70	1. 601 1. 733 2. 65
$3d^54s(a\ ^7S)5d$	$f\ ^8D$	$\frac{1}{2}$ $\frac{2}{2}$ $\frac{3}{2}$ $\frac{4}{2}$ $\frac{5}{2}$	52702. 48?	0. 6 2. 1	
$3d^54s(a\ ^7S)5d$	$f\ ^6D$	$\frac{4}{2}$ $\frac{3}{2}$ $\frac{2}{2}$ $\frac{1}{2}$ $\frac{0}{2}$	52726. 39 52730. 41 52733. 22 52735. 01 52735. 83	-4. 02 -2. 81 -1. 79 -0. 82	
$3d^54s(a\ ^7S)7s$	$h\ ^6S$	$\frac{2}{2}$	54460. 30		

TABLE 2. Even terms of Mn I—Continued

Config.	Desig.	J	Level	Interval	Obs. g
$3d^54s(a\ ^5S)4d$	$g\ ^6D$	$4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	54938. 56 54946. 09 54950. 66 54953. 02 54949. 90	-7. 53 -4. 57 -2. 36 3. 12	
$3d^54s(a\ ^7S)6d$	$g\ ^8D$	$1\frac{1}{2}$ $2\frac{1}{2}$ $3\frac{1}{2}$ $4\frac{1}{2}$ $5\frac{1}{2}$		0. 94 1. 00	
$3d^54s(a\ ^7S)6d$	$h\ ^6D$	$4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	55681. 90 55688. 10 55690. 80 55691. 90 55692. 40	-6. 20 -2. 70 -1. 10 -0. 50	
$3d^54s(a\ ^7S)8s$	$g\ ^8S$	$3\frac{1}{2}$	56144. 16		
$3d^6(a\ ^5D)5s$	$i\ ^6D$	$4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	56189. 45 56356. 21 56490. 79 56567. 93 56666. 06	-166. 76 -134. 58 -77. 14 -98. 13	1. 57
	$e\ ^4D$	$3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	56462. 08 56561. 95 56601. 63	-99. 87 -39. 68	
$3d^54s(a\ ^7S)7d$	$h\ ^8D$	$1\frac{1}{2}$ to $5\frac{1}{2}$	56801. 4?		
$3d^54p^2$	$e\ ^8P$	$2\frac{1}{2}$ $3\frac{1}{2}$ $4\frac{1}{2}$	57086. 33 57218. 15 57388. 90	131. 82 170. 75	2. 27 1. 767
$3d^6(a\ ^5D)5s$	$f\ ^4D$	$3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	57305. 62 57485. 97 57621. 90 57705. 83	-180. 35 -135. 93 -83. 93	1. 372
Mn II ( $7S_3$ )	<b>Limit</b>		<b>59970</b>		
$3d^6(a\ ^5D)5d$	$e\ ^6F$	$5\frac{1}{2}$ $4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	61713. 62 62030. 18 62294. 66 62905. 81 63083. 24	-316. 56 -264. 48 -611. 15 -177. 43	
$3d^6(a\ ^5D)4d$	$e\ ^6G$	$6\frac{1}{2}$ $5\frac{1}{2}$ $4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$	62001. 09 62134. 45 62300. 63 62426. 48 62514. 59 62573. 11	-133. 36 -166. 18 -125. 85 -88. 11 -58. 52	
$3d^6(a\ ^5D)4d$	$e\ ^4G$	$5\frac{1}{2}$ $4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$	62295. 36 62479. 04 62632. 77 62753. 37	-183. 68 -153. 73 -120. 60	
$3d^6(a\ ^5D)4d$	$e\ ^4F$	$4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$	63231. 43 63424. 00	-192. 57	
$3d^54s(a\ ^5G)5s$	$f\ ^4G$	$5\frac{1}{2}$ $4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$	68693. 02 68716. 22	-23. 20	1. 17

TABLE 2. Odd Terms of Mn I

Config.	Desig.	<i>J</i>	Level	Interval	Obs. g
$3d^5 4s(a\ ^7S)4p$	$z\ ^8P^\circ$	$2\frac{1}{2}$	18402. 46	129. 18 173. 73	2. 284
		$3\frac{1}{2}$	18531. 64		1. 938
		$4\frac{1}{2}$	18705. 37		1. 779
$3d^5 4s(a\ ^7S)4p$	$z\ ^6P^\circ$	$1\frac{1}{2}$	24779. 32	8. 73 14. 20	2. 364
		$2\frac{1}{2}$	24788. 05		1. 875
		$3\frac{1}{2}$	24802. 25		1. 714
$3d^5 4s(a\ ^5S)4p$	$z\ ^4P^\circ$	$2\frac{1}{2}$	31001. 15	−75. 27 −48. 53	1. 60
		$1\frac{1}{2}$	31076. 42		1. 732
		$0\frac{1}{2}$	31124. 95		2. 668
$3d^5 4s(a\ ^5S)4p$	$y\ ^6P^\circ$	$1\frac{1}{2}$	35689. 98	35. 87 44. 12	2. 400
		$2\frac{1}{2}$	35725. 85		1. 886
		$3\frac{1}{2}$	35769. 97		1. 712
$3d^6(a\ ^5D)4p$	$z\ ^6D^\circ$	$4\frac{1}{2}$	41789. 48	−143. 16 −121. 09 −89. 84 −54. 99	1. 556
		$3\frac{1}{2}$	41932. 64		1. 587
		$2\frac{1}{2}$	42053. 73		1. 653
		$1\frac{1}{2}$	42143. 57		1. 867
		$0\frac{1}{2}$	42198. 56		3. 317
$3d^6(a\ ^5D)4p$	$z\ ^6F^\circ$	$5\frac{1}{2}$	43314. 23	−114. 35 −95. 50 −71. 42 −48. 95 −28. 21	1. 464
		$4\frac{1}{2}$	43428. 58		1. 431
		$3\frac{1}{2}$	43524. 08		1. 395
		$2\frac{1}{2}$	43595. 50		1. 310
		$1\frac{1}{2}$	43644. 45		1. 068
		$0\frac{1}{2}$	43672. 66		−0. 602
$3d^6(a\ ^5D)4p$	$z\ ^4F^\circ$	$4\frac{1}{2}$	44288. 76	−234. 69 −172. 84 −118. 44	1. 317
		$3\frac{1}{2}$	44523. 45		1. 240
		$2\frac{1}{2}$	44696. 29		1. 030
		$1\frac{1}{2}$	44814. 73		0. 400
$3d^6(a\ ^5D)4p$	$x\ ^6P^\circ$	$3\frac{1}{2}$	44993. 92	−162. 19 −103. 06	1. 717
		$2\frac{1}{2}$	45156. 11		1. 885
		$1\frac{1}{2}$	45259. 17		2. 399
$3d^6(a\ ^5D)4p$	$z\ ^4D^\circ$	$3\frac{1}{2}$	45754. 27	−186. 66 −142. 96 −86. 04	1. 427
		$2\frac{1}{2}$	45940. 93		1. 372
		$1\frac{1}{2}$	46083. 89		1. 200
		$0\frac{1}{2}$	46169. 93		0. 000
$3d^5 4s(a\ ^7S)5p$	$y\ ^8P^\circ$	$2\frac{1}{2}$	45981. 44	19. 33 25. 98	
		$3\frac{1}{2}$	46000. 77		
		$4\frac{1}{2}$	46026. 75		
$3d^6(a\ ^5D)4p$	$y\ ^4P^\circ$	$2\frac{1}{2}$	46901. 13	−253. 38 −144. 78	1. 595
		$1\frac{1}{2}$	47154. 51		1. 732
		$0\frac{1}{2}$	47299. 29		2. 666
$3d^5 4s(a\ ^7S)5p$	$w\ ^6P^\circ$	$3\frac{1}{2}$	47387. 62	−271. 90 −122. 91	1. 713
		$2\frac{1}{2}$	47659. 52		1. 952
		$1\frac{1}{2}$	47782. 43		2. 666
$3d^5 4s(a\ ^5P)4p$	$y\ ^6D^\circ$	$0\frac{1}{2}$	47452. 16	14. 50 287. 33 20. 53 129. 28	3. 174
		$1\frac{1}{2}$	47466. 66		
		$2\frac{1}{2}$	47753. 99		
		$3\frac{1}{2}$	47774. 52		
		$4\frac{1}{2}$	47903. 80		
$3d^5 4s(a\ ^5G)4p$	$y\ ^6F^\circ$	$5\frac{1}{2}$	48021. 43	−146. 58 −57. 98 −44. 92 −30. 07 −17. 14	1. 460
		$4\frac{1}{2}$	48168. 01		1. 432
		$3\frac{1}{2}$	48225. 99		1. 043
		$2\frac{1}{2}$	48270. 91		1. 319
		$1\frac{1}{2}$	48300. 98		1. 068
		$0\frac{1}{2}$	48318. 12		−0. 496

TABLE 2. Odd Terms of Mn I—Continued

Config.	Desig.	J	Level	Interval	Obs. g
$3d^5 4s(a \ ^5P)4p$	$v \ ^6P^\circ$	$\begin{array}{l} 3\frac{1}{2} \\ 2\frac{1}{2} \\ 1\frac{1}{2} \end{array}$	$\begin{array}{l} 49888.08 \\ 50012.53 \\ 50099.16 \end{array}$	$\begin{array}{l} -124.45 \\ -86.63 \end{array}$	$\begin{array}{l} 1.711 \\ 1.888 \\ 2.398 \end{array}$
$3d^5 4s(a \ ^5G)4p$	$z \ ^4H^\circ$	$\begin{array}{l} 3\frac{1}{2} \\ 4\frac{1}{2} \\ 5\frac{1}{2} \\ 6\frac{1}{2} \end{array}$	$\begin{array}{l} 50065.46 \\ 50072.59 \\ 50081.31 \\ 50094.60 \end{array}$	$\begin{array}{l} 7.13 \\ 8.72 \\ 13.29 \end{array}$	1.22
$3d^5 4s(a \ ^5G)4p$	$y \ ^4F^\circ$	$\begin{array}{l} 4\frac{1}{2} \\ 3\frac{1}{2} \\ 2\frac{1}{2} \\ 1\frac{1}{2} \end{array}$	$\begin{array}{l} 50341.30 \\ 50359.28 \\ 50373.23 \\ 50383.27 \end{array}$	$\begin{array}{l} -17.98 \\ -13.95 \\ -10.04 \end{array}$	$\begin{array}{l} 1.318 \\ 1.242 \\ 1.03 \end{array}$
$3d^5 4s(b \ ^5D)4p$	$x \ ^6F^\circ$	$\begin{array}{l} 0\frac{1}{2} \\ 1\frac{1}{2} \\ 2\frac{1}{2} \\ 3\frac{1}{2} \\ 4\frac{1}{2} \\ 5\frac{1}{2} \end{array}$	$\begin{array}{l} 50818.64 \\ 50863.05 \\ 50931.42 \\ 51014.95 \\ 51100.49 \\ 51169.18 \end{array}$	$\begin{array}{l} 44.41 \\ 68.37 \\ 83.53 \\ 85.54 \\ 68.69 \end{array}$	$\begin{array}{l} -0.62 \\ 1.07 \\ 1.316 \end{array}$
$3d^5 4s(a \ ^5P)4p$	$x \ ^4P^\circ$	$\begin{array}{l} 2\frac{1}{2} \\ 1\frac{1}{2} \\ 0\frac{1}{2} \end{array}$	$\begin{array}{l} 51305.41 \\ 51445.65 \\ 51552.78 \end{array}$	$\begin{array}{l} -140.24 \\ -107.13 \end{array}$	$\begin{array}{l} 1.591 \\ 1.728 \\ 2.664 \end{array}$
$3d^5 4s(a \ ^5G)4p$	$z \ ^4G^\circ$	$\begin{array}{l} 2\frac{1}{2} \\ 3\frac{1}{2} \\ 4\frac{1}{2} \\ 5\frac{1}{2} \end{array}$	$\begin{array}{l} 51515.63 \\ 51530.61 \\ 51546.27 \\ 51560.93 \end{array}$	$\begin{array}{l} 14.98 \\ 15.66 \\ 14.66 \end{array}$	1.273
$3d^5 4s(b \ ^5D)4p$	$u \ ^6P^\circ$	$\begin{array}{l} 1\frac{1}{2} \\ 2\frac{1}{2} \\ 3\frac{1}{2} \end{array}$	$\begin{array}{l} 52015.00 \\ 52128.65 \\ 52253.24 \end{array}$	$\begin{array}{l} 113.65 \\ 124.59 \end{array}$	1.71
$3d^5 4s(b \ ^5D)4p$	$x \ ^6D^\circ$	$\begin{array}{l} 4\frac{1}{2} \\ 3\frac{1}{2} \\ 2\frac{1}{2} \\ 1\frac{1}{2} \\ 0\frac{1}{2} \end{array}$	$\begin{array}{l} 52758.11 \\ 52870.10 \\ 52883.87 \\ 52883.87 \\ 52883.10 \end{array}$	$\begin{array}{l} -111.99 \\ -13.77 \\ 0.00 \\ 0.77 \end{array}$	$\begin{array}{l} 1.552 \\ 1.57 \end{array}$
$3d^5 4s(a \ ^7S)4f$	$z \ ^8F^\circ$	$\begin{array}{l} 0\frac{1}{2} \\ \text{to} \\ 6\frac{1}{2} \end{array}$	52974.5?		
$3d^5 4s(a \ ^7S)4f$	$w \ ^6F^\circ$	$\begin{array}{l} 0\frac{1}{2} \\ 1\frac{1}{2} \\ 2\frac{1}{2} \\ 3\frac{1}{2} \\ 4\frac{1}{2} \\ 5\frac{1}{2} \end{array}$	$\begin{array}{l} 52977.93 \\ 52978.03 \\ 52977.82 \\ 52977.75 \\ 52977.89 \end{array}$	$\begin{array}{l} 0.10 \\ -0.21 \\ -0.07 \\ 0.14 \end{array}$	
$3d^5 4s(a \ ^5P)4p$	$y \ ^4D^\circ$	$\begin{array}{l} 0\frac{1}{2} \\ 1\frac{1}{2} \\ 2\frac{1}{2} \\ 3\frac{1}{2} \end{array}$	$\begin{array}{l} 53101.32 \\ 53103.19 \\ 53109.21 \\ 53124.09 \end{array}$	$\begin{array}{l} 1.87 \\ 6.02 \\ 14.88 \end{array}$	1.423
$3d^5 4s(a \ ^7S)6p$	$t \ ^6P^\circ$	$\begin{array}{l} 3\frac{1}{2} \\ 2\frac{1}{2} \\ 1\frac{1}{2} \end{array}$	$\begin{array}{l} 53261.42 \\ 53291.58 \\ 53311.37 \end{array}$	$\begin{array}{l} -30.16 \\ -19.79 \end{array}$	
$3d^5 4s(a \ ^5P)4p$	$z \ ^4S^\circ$	$1\frac{1}{2}$	54218.71		1.770
$3d^5 4s(b \ ^5D)4p$	$x \ ^4D^\circ$	$\begin{array}{l} 3\frac{1}{2} \\ 2\frac{1}{2} \\ 1\frac{1}{2} \\ 0\frac{1}{2} \end{array}$	$\begin{array}{l} 55107.52 \\ 55186.17 \\ 55279.91 \end{array}$	$\begin{array}{l} -78.65 \\ -93.74 \end{array}$	$\begin{array}{l} 1.407 \\ 1.365 \\ 0.826 \end{array}$
$3d^5 4s(b \ ^5D)4p$	$w \ ^4P^\circ$	$\begin{array}{l} 2\frac{1}{2} \\ 1\frac{1}{2} \\ 0\frac{1}{2} \end{array}$	$\begin{array}{l} 55405.14 \\ 55368.66 \\ 55457.20 \end{array}$	$\begin{array}{l} 36.48 \\ -88.54 \end{array}$	2.28

TABLE 2. Odd Terms of Mn I—Continued

Config.	Desig.	J	Level	Interval	Obs. g
$3d^5 4s(a\ ^7S)5f$	$v\ ^6F^\circ$	$0\frac{1}{2}$ $1\frac{1}{2}$ $2\frac{1}{2}$ $3\frac{1}{2}$ $4\frac{1}{2}$ $5\frac{1}{2}$	55491. 95 55491. 57 55492. 08 55492. 52 55492. 74	-0. 38 0. 15 0. 44 0. 22	
$3d^5 4s(a\ ^7S)5f$	$y\ ^8F^\circ$	$6\frac{1}{2}$ $5\frac{1}{2}$ $4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	55498. 5 55499. 09 55499. 09 55499. 5 55499. 90 55499. 75	-0. 6 0. 0 -0. 4 -0. 4 0. 15	
$3d^5 4s(a\ ^5S)5p$	$s\ ^6P^\circ?$	$1\frac{1}{2}$ $2\frac{1}{2}$ $3\frac{1}{2}$	55996. 62 56007. 91 56012. 42	11. 29 4. 51	
$3d^5 4s(a\ ^7S)6f$	$u\ ^6F^\circ$	$0\frac{1}{2}$ to $6\frac{1}{2}$	56867. 1		
$3d^5 4s(b\ ^3P)4p$	$v\ ^4P^\circ$	$0\frac{1}{2}$ $1\frac{1}{2}$ $2\frac{1}{2}$	57228. 30 57360. 78 57487. 08	132. 48 126. 30	2. 671 1. 736 1. 590
$3d^5 4s(b\ ^3P)4p$	$y\ ^4S^\circ$	$1\frac{1}{2}$	57512. 16		2. 000
$3d^5 4s(a\ ^7S)7f$	$t\ ^6F^\circ$	$0\frac{1}{2}$ to $6\frac{1}{2}$	57697. 2		
$3d^6(a\ ^3H)4p$	$y\ ^4G^\circ$	$5\frac{1}{2}$ $4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$	58075. 06 58110. 24 58136. 69 58159. 73	-35. 18 -26. 45 -23. 04	1. 269 1. 168 0. 980 0. 578
$3d^6(a\ ^3H)4p$	$y\ ^4H^\circ$	$6\frac{1}{2}$ $5\frac{1}{2}$ $4\frac{1}{2}$ $3\frac{1}{2}$	58338. 67 58427. 30 58485. 52 58519. 90	-88. 63 -58. 22 -34. 38	1. 228 1. 133 0. 968 0. 665
$3d^6(a\ ^3H)4p$	$z\ ^4I^\circ$	$7\frac{1}{2}$ $6\frac{1}{2}$ $5\frac{1}{2}$ $4\frac{1}{2}$	58852. 60 58843. 39 58851. 49 58866. 66	9. 21 -8. 10 -15. 17	1. 09 0. 73
$3d^6(a\ ^3P)4p$	$u\ ^4P^\circ$	$2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	59116. 60 59384. 45 59568. 29	-267. 85 -183. 84	1. 558 1. 608 1. 94
$3d^6(a\ ^3F)4p$	$x\ ^4F^\circ$	$4\frac{1}{2}$ $3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$	59257. 44 59290. 23 59360. 72 59416. 15	-32. 79 -70. 49 -55. 43	1. 327 1. 325 1. 11 0. 39
$3d^6(a\ ^3P)4p$	$w\ ^4D^\circ$	$3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	59339. 55 59600. 35 59989. 77 60141. 98	-260. 86 -389. 42 -152. 21	1. 362 1. 277 1. 194 0. 17
$3d^6(a\ ^3F)4p$	$v\ ^4D^\circ$	$3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	59470. 14 59480. 80 59527. 89 59527. 36	-10. 66 -47. 09 0. 53	1. 386 1. 281
$3d^6(a\ ^3H)4p$	$z\ ^2I^\circ$	$6\frac{1}{2}$ $5\frac{1}{2}$	59617. 12 59827. 88	-210. 76	1. 074 0. 93

TABLE 2. Odd Terms of Mn I—Continued

Config.	Desig.	<i>J</i>	Level	Interval	Obs. g
$3d^6(a^3F)4p$	$x^4G^\circ$	$\frac{5}{2}$ , $\frac{4}{2}$ , $\frac{3}{2}$ , $\frac{2}{2}$	59652. 90 59731. 94 59784. 31 59817. 70	-79. 04 -52. 37 -33. 39	1. 239 1. 169 0. 990 0. 584
Mn II ( ${}^7S_3$ )	<b>Limit</b>		<b>59970</b>		
$3d^6({}^3P)4p$	$z^2D^\circ$	$\frac{2}{2}$ , $\frac{1}{2}$	60101. 65 60395. 64	-293. 99	1. 31 0. 91
$3d^6(a^3H)4p$	$z^2G^\circ$	$\frac{4}{2}$ , $\frac{3}{2}$	60668. 49 60739. 42	-70. 93	1. 112
	$w^4F^\circ$	$\frac{11}{2}$ , $\frac{2}{2}$ , $\frac{3}{2}$ , $\frac{4}{2}$	60760. 87 60820. 35 60902. 80 60938. 97	59. 48 82. 45 36. 17	
$3d^5\ 4s({}^3I)4p$	$x^4H^\circ$	$\frac{6}{2}$ , $\frac{5}{2}$ , $\frac{4}{2}$ , $\frac{3}{2}$	60891. 48 60933. 73 60955. 88 60957. 21	-42. 25 -22. 15 -1. 33	1. 228 1. 134
$3d^5\ 4s({}^3I)4p$	$y^4I^\circ$	$\frac{7}{2}$ , $\frac{6}{2}$ , $\frac{5}{2}$ , $\frac{4}{2}$	61204. 54 61225. 55 61225. 77 61211. 43	-21. 01 -0. 22 14. 34	1. 20 0. 75
	$w^4G^\circ$	$\frac{5}{2}$ , $\frac{4}{2}$ , $\frac{3}{2}$ , $\frac{2}{2}$	61469. 21 61485. 34 61480. 60 61471. 23	-16. 13 4. 74 9. 37	1. 164 1. 020 1. 13
	$z^2F^\circ$	$\frac{3}{2}$ , $\frac{2}{2}$	61710. 98 61727. 46	-16. 48	
	$y^2G^\circ$	$\frac{4}{2}$ , $\frac{3}{2}$	61714. 52 61785. 94	-71. 42	0. 93
		$\frac{5}{2}$	61744. 04		
	$y^2I^\circ$	$\frac{5}{2}$ , $\frac{6}{2}$	61819. 07 61912. 57	93. 50	
	$y^2F^\circ$	$\frac{3}{2}$ , $\frac{2}{2}$	62034. 04 62075. 02	-40. 98	0. 58
$3d^6({}^3P)4p$	$z^2P^\circ$	$\frac{1}{2}$ , $\frac{0}{2}$	62354. 76 62391. 05	-36. 29	1. 24 0. 81
$3d^6(a^3G)4p$	$v^4F^\circ$	$\frac{11}{2}$ , $\frac{2}{2}$ , $\frac{3}{2}$ , $\frac{4}{2}$	62390. 20 62487. 36 62505. 29 62392. 82	97. 16 17. 93 -112. 47	
$3d^5\ 4s(a^5F)4p$	$w^6D^\circ$	$\frac{4}{2}$ , $\frac{3}{2}$ , $\frac{2}{2}$ , $\frac{1}{2}$ , $\frac{0}{2}$	62670. 81 62851. 47 62761. 33 62787. 63 62768. 16	-180. 66 90. 14 -26. 30 19. 47	
	$y^2D^\circ$	$\frac{2}{2}$ , $\frac{1}{2}$	63081. 28 63114. 11	-32. 83	1. 24 0. 758
	$x^2F^\circ$	$\frac{2}{2}$ , $\frac{3}{2}$	63139. 70 63288. 78	149. 08	
$3d^6({}^3H?)4p$	$z^2H^\circ$	$\frac{5}{2}$ , $\frac{4}{2}$	63288. 78 63548. 49	-259. 71	1. 127 0. 92

TABLE 2. Odd Terms of Mn I—Continued

Config.	Desig.	<i>J</i>	Level	Interval	Obs. g
		$3\frac{1}{2}$	63319. 85?		
	<i>y</i> $^2\text{H}^\circ$	$4\frac{1}{2}$ $5\frac{1}{2}$	63347. 91 63449. 13	101. 22	
$3d^6(^3\text{G})4p$	<i>w</i> $^4\text{H}^\circ$	$6\frac{1}{2}$ $5\frac{1}{2}$ $4\frac{1}{2}$ $3\frac{1}{2}$	63363. 54 63457. 85 63444. 61 63395. 45	-94. 31 13. 24 49. 16	1. 231 1. 14 0. 70
		$2\frac{1}{2}$	63371. 56		
		$4\frac{1}{2}$	63374. 53		
		$2\frac{1}{2}$	63523. 82		
		$3\frac{1}{2}$	63546. 30		
		$1\frac{1}{2}, 2\frac{1}{2}$	63583. 84		
	<i>x</i> $^2\text{D}^\circ$	$2\frac{1}{2}$ $1\frac{1}{2}$	63764. 90 63845. 32	-80. 42	
	<i>x</i> $^2\text{H}^\circ$	$5\frac{1}{2}$ $4\frac{1}{2}$	64051. 91 64055. 37	-3. 46	
	<i>u</i> $^4\text{D}^\circ$	$3\frac{1}{2}$ $2\frac{1}{2}$ $1\frac{1}{2}$ $0\frac{1}{2}$	64409. 69 64712. 94 64683. 95 64638. 68	-303. 25 28. 99 45. 27	1. 42 1. 22 0. 22
	<i>x</i> $^2\text{G}^\circ$	$4\frac{1}{2}$ $3\frac{1}{2}$	64585. 44 64649. 20	-63. 76	1. 307
	<i>v</i> $^4\text{H}^\circ$	$6\frac{1}{2}$ $5\frac{1}{2}$ $4\frac{1}{2}$ $3\frac{1}{2}$	64731. 88 64819. 53 64888. 00 64920. 33	-87. 65 -68. 47 -32. 33	1. 236 1. 137 0. 974
	<i>w</i> $^2\text{F}^\circ$	$2\frac{1}{2}$ $3\frac{1}{2}$	64823. 21 64988. 22	165. 01	
	<i>w</i> $^2\text{G}^\circ$	$4\frac{1}{2}$ $3\frac{1}{2}$	65262. 28 65305. 13	-42. 85	1. 13
	<i>v</i> $^2\text{F}^\circ$	$3\frac{1}{2}$ $2\frac{1}{2}$	65617. 37 65649. 13?	-31. 76	1. 015
		$4\frac{1}{2}$	65768. 81		1. 12
	<i>v</i> $^4\text{G}^\circ$	$2\frac{1}{2}$ $3\frac{1}{2}$ $4\frac{1}{2}$ $5\frac{1}{2}$	65873. 40 65876. 34 65908. 92 65887. 31	2. 94 32. 58 -21. 61	1. 160 1. 259
	<i>w</i> $^2\text{D}^\circ$	$2\frac{1}{2}$ $1\frac{1}{2}$	65946. 87 65961. 90	-15. 03	1. 30
	<i>u</i> $^2\text{F}^\circ$	$2\frac{1}{2}$ $3\frac{1}{2}$	66020. 63 66149. 10	128. 47	1. 14
	<i>u</i> $^4\text{H}^\circ$	$3\frac{1}{2}$ $4\frac{1}{2}$ $5\frac{1}{2}$ $6\frac{1}{2}$	66334. 47 66356. 40 66418. 55 66568. 58	21. 93 62. 15 150. 03	0. 764 1. 022 1. 23
	<i>u</i> $^4\text{G}^\circ$	$2\frac{1}{2}$ $3\frac{1}{2}$ $4\frac{1}{2}$ $5\frac{1}{2}$	66395. 19 66454. 27 66522. 62 66573. 60	59. 08 68. 35 50. 98	0. 611 0. 932 1. 13 1. 24

TABLE 2. Odd Terms of Mn I—Continued

Config.	Desig.	<i>J</i>	Level	Interval	Obs. g
<i>v</i> $^2\text{G}^\circ$		$1\frac{1}{2}$	66504. 21		
		$3\frac{1}{2}$	66600. 17		
	<i>u</i> $^4\text{F}^\circ$	$4\frac{1}{2}$	66630. 92	−106. 90	1. 13
		$3\frac{1}{2}$	66737. 82		0. 46
		$2\frac{1}{2}$	66654. 65?		
	<i>w</i> $^2\text{H}^\circ$	$1\frac{1}{2}$	66843. 79	−6. 15 −54. 59 71. 95	0. 46
		$2\frac{1}{2}$	66837. 64		
		$3\frac{1}{2}$	66783. 05		1. 21
		$4\frac{1}{2}$	66855. 00		1. 33
		$2\frac{1}{2}$ ?	66910. 02		
		$3\frac{1}{2}$	66981. 30		1. 33
		$2\frac{1}{2}$	67008. 54		
	<i>t</i> $^4\text{G}^\circ$	$5\frac{1}{2}$	67504. 90	−71. 94	1. 09
		$4\frac{1}{2}$	67576. 84		0. 90
		$5\frac{1}{2}$	67752. 84	−66. 33 −72. 19 −73. 51	1. 266
		$4\frac{1}{2}$	67819. 17		
		$3\frac{1}{2}$	67891. 36		
		$2\frac{1}{2}$	67964. 87		
	<i>u</i> $^2\text{G}^\circ$	$4\frac{1}{2}$	68286. 44	−52. 15	1. 320
		$3\frac{1}{2}$	68338. 59		
$3d^6(^1\text{I})4p$	<i>z</i> $^2\text{K}^\circ$	$7\frac{1}{2}$	68797. 56?	−44. 96	1. 07
		$6\frac{1}{2}$	68842. 52?		0. 93
$3d^6(^1\text{I})4p$	<i>x</i> $^2\text{I}^\circ$	$6\frac{1}{2}$	69560. 88?	−68. 97	1. 07
		$5\frac{1}{2}$	69629. 85?		0. 924
$3d^6(^1\text{I})4p?$	<i>v</i> $^2\text{H}^\circ$	$4\frac{1}{2}$	69663. 20?	59. 76	1. 10
		$5\frac{1}{2}$	69722. 96		

the average differences do not exceed 0.03 K, we have retained the older values.

In col. 2, some intensity numbers are accompanied by literal symbols for line character; these have the following meanings, *c*=complex, *d*=double, *h*=hazy, *H*=very hazy, *l*=shaded long ward, *r*=narrow self-reversal, *R*=wide self-reversal, *s*=shaded short ward, *w*=wide. Excepting self-reversals, the remaining symbols for line character frequently suggest unresolved hyperfine structure because the manganese nucleus has a spin of  $5/2$  ( $h/2\pi$ ) and a magnetic moment of 3.5 nuclear magnetons.

Table 1 contains 2030 classified lines of Mn I, including 55 accepted double classifications for lack of adequate spectroscopic resolving power. The energy levels derived from these classified levels are symbolized in col. 5, and the difference between their numerical values and the vacuum wave number associated with the measured wavelength is shown in col. 4, O—C. The average O—C for all classified lines is 0.06 K.

The electron configurations, numerical values, and *g*-factors associated with the atomic-energy-level symbols in col. 5 of table 1, will be found in table 2.

In the last column of table 1 appear Zeeman-type numbers for 390 classified lines of Mn I according to the description of basic types of Zeeman patterns by Back and Landé [32, 34]. Briefly, types 4, 5, 6 are restricted to even multiplicities (doublets, quartets, sextets, octets) whose energy levels always have half-integral inner-quantum number (*J*-values). In type 4, the level with larger *J* has the smaller *g*, in type 5 the level with larger *J* also has the larger *g* and in type 6, the two combining levels have equal *J* but unequal *g* values. Type 7b is a special case of types 4, 5, 6 in which the *g* values of both combining levels are equal so that the observed pattern is a pseudo triplet with one *p* component and two *n* components. In the case of equal *J* and equal *g*, the type is represented by 6, 7b, and the displacement of the *n* components in Lorentz units expresses both *g* values.

The letter C attached to a dozen type numbers in col. 6 indicates the lines with asymmetrical patterns which Catalán [24] analysed in detail and for which he derived proper *g* values. Finally, instead of type numbers, the letters P—B appear for fifty lines; these are additional lines with Zeeman patterns that

exhibit partial Paschen-Back effects partially interpreted by Garcia-Riquelme et al. [28]. The Zeeman data were most helpful in this analysis of Mn I; they have confirmed our interpretation almost completely and have permitted the designation of many terms belonging to the doublet system which was the most difficult to establish. The available Zeeman data for Mn I [6, 21, 23, 24, 27, 28, 29] prove that most of the levels arising from low-energy configurations ( $d^5s^2$ ,  $d^6s$ ,  $d^5sp$ ,  $d^6p$ ) exhibit a remarkably pure LS coupling of electrons, and their  $g$ -factors are usually identical with the theoretical Landé values, within the error of measurement. Some of the upper levels of both the even and the odd configurations present anomalous  $g$ -values that may be explained by intermediate coupling or by incorrect grouping of levels in designated terms. Many more Zeeman patterns could be observed if a modern light source that promotes the emission of Mn I radiation were used.

The latest information on spectral terms derived from this analysis of Mn I is presented in table 2 where electron configurations (including series limits), spectral-term designations in standard notation for LS electron coupling,  $J$ -values, relative numerical values, intervals, and observed  $g$ -factors are shown in successive columns. The totals are 42 even terms with 125 levels and 60  $g$  values, and 94 odd terms with 266 levels plus 13 miscellaneous and 164  $g$  values. In 1952 [21] the totals were 36 even terms with 109 levels and 26  $g$  values, and 66 odd terms with 214 levels plus 33 miscellaneous and 81  $g$  values, not counting 12 abandoned levels. It is seen that the present analysis of the Mn I spectrum is a considerable improvement over any preceding, but, if a comparison is made of the presently recognized terms with the table of predicted terms [21, pp. XIV, XV], any claim that it is satisfactorily completed is unjustified. In order to show the progress that has rewarded this problem during the past 40 years, we briefly summarize in table 3 the number of classified Mn I lines and derived atomic energy levels at different times during this period.

TABLE 3. Energy levels and classified lines of Mn I

Year	Reference	Number of levels	Number of lines
1922	4	70	169
1926	9	91	257
1949	15	211	711
1952	21	356	1500
1962	This work	404	2030

The present analysis has effectively exhausted all available data on wavelengths, intensities, and Zeeman patterns of Mn I so that no further progress can be made with that material. But now we know that an arc between manganese electrodes at atmospheric pressure, with which all observations were made, is an inferior light source. Because manganese is a relatively light atom (A-55), and the arc has a high temperature ( $>5000$  °C), it produces broad lines which are always very hazy and

unsymmetrical when they involve high energy levels. All complex Mn I terms that converge to  $a^7S_3$  or  $a^5S_2$  limits in Mn II have very small intervals and are mostly unresolved because of the excessive line widths. Furthermore, the traditional arc in air always produces a strong background of molecular spectra that often masks atomic lines. All of these spectroscopic objections to an arc in air can now be avoided by using highly evacuated electrodeless (quartz tube) lamps containing a trace of metal or halide compound excited with ultrahigh frequency as demonstrated by Meggers and Westfall [33] for mercury and by Corliss and Meggers [34] for hafnium. At elevated temperatures (ca. 800 °C) such lamps favor spectra of neutral atoms, especially important for faint lines and for observing first spectra in strong magnetic fields; we mention this to aid anyone who becomes ambitious to make further progress in the description and quantum interpretation of the Mn I spectrum. That such progress is desirable becomes obvious when the now known spectral terms (table 2) are compared with the predicted ones [21]. Although many electron configurations and spectral terms have been identified, rarely is a configuration represented by all its terms and in some cases the terms themselves are fragmentary or even uncertain.

In 1922, Catalán derived, from spectral series of running s electrons, the absolute energy of the ground state of Mn I, and computed the first ionization potential to be 7.41 electron volts. Thirty years later Catalán and Velasco [35] systematically studied the first three ionization potentials of elements in the iron group; for Mn I they obtained an absolute value of 59960 K for the ground state, the equivalent 7.432 eV. These values were quoted in the second volume of Atomic Energy Levels [21]. A decade later, Garcia-Riquelme [36] applied a Ritz formula to a series of  $^6F$  terms with four members (4f, 5f, 6f, 7f) and found the limit near 59979 K or 7.434 eV. We decided to adopt the average of the last two determinations resulting in a limit of 59970 K or ionization potential of 7.433 eV for normal manganese.

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