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CHROMOSPHERIC SPECTRUM FROM TEN ECLIPSE EXPEDITIONS

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ABSTRACT

The heights in kilometers and the intensities are given for 3500 lines. For 5000 Å to the red side of 3066 Å the photographs of the flash spectrum have a uniform dispersion of 10.8 Å/mm and for an additional 800 Å the dispersion is 80 Å/mm. The spectra includes 35 lines of the Balmer series of hydrogen and from $H\ 11$ to $H\ 40$ of the Paschen series.

Since the date of the earlier publication by the author, successful photographs have been obtained at the eclipses of 1930 and 1937, both expeditions being in the Pacific Ocean. The heights and intensities from the earlier eclipses were re-estimated, and an attempt was made to secure uniformity in the observed material.

Throughout my life as an eclipse observer I have experienced rare good luck. In one hundred thousand miles of travel by land and sea, I have had an accumulated duration of totality of less than one-half hour, or 26 minutes, for securing the observations. From my ten eclipses I have secured measurable spectra at five different eclipses—in 1901, 1905, 1925, 1930, and 1937—while, in addition, in 1918 a few of the stronger lines were photographed through clouds.

Three times heretofore I have published wave lengths and associated data from my photographs of the flash spectrum. In each case the original was published in the *Astrophysical Journal*, the most recent discussion being in 1930, in Volume 71, and in *Publications of the Leander McCormick Observatory*, Volume 5, Part II. The spectra taken in 1905 and 1925 were included together with a region of 250 Å of short wave lengths photographed at the 1926 eclipse by Davidson and Stratton. A total of 3250 lines was tabulated between 3066 Å and 7065 Å.

Since the date of the preparation of the material for publication, I have been on three additional expeditions, on two of which I obtained successful spectra.

For the 1930 eclipse on Niuafoou, or Tin-Can Island, in the South Pacific, the plane mirrors for the coelostats used were aluminized for the first time; with two concave gratings of dispersion 10.8 Å/mm, the region from the extreme ultraviolet to 7800 Å in the infrared was covered. There was a considerable overlap from 4650 Å to 6800 Å between the spectra taken by the two gratings. In 1937, on Canton Island, again in the South Pacific Ocean, instead of the concave grating always kindly loaned by Professor F. A. Saunders and used in eclipses from 1905 to 1930 inclusive, I had a grating of similar dispersion, 10.8 Å/mm, loaned by Mount Wilson Observatory. The grating was aluminized,

and all coelostat mirrors were likewise coated with aluminum. Through the kindness of H. D. Curtis, I had the use of the concave-grating spectrograph constructed by him for the 1925 eclipse. The spectra for the extreme infrared gave a dispersion of about 80 Å/mm. Curtis had been invited and had accepted the invitation to be a member of the 1937 expedition, but an unfortunate illness prevented his participation.

All spectra in the present discussion were photographed on fixed plates, or rather, on heavy celluloid films. The exposures for first and second flash at each eclipse were timed through observations with a direct-vision spectrograph, consisting of old-fashioned binoculars with a replica grating over the lens to be used for the right eye and dark glass over the lens for the left eye. At each eclipse since 1905 the celluloid films have been coated specially at the Research Laboratories of Eastman Kodak Company, through the sympathetic co-operation of Dr. C. E. K. Mees.

THE CHROMOSPHERIC SPECTRA

Included in the present compilation are photographs of four eclipses—1905, 1925, 1930, and 1937. There is a total of 3500 lines. For 5000 Å to the long-wave-length side of 3066 Å, the dispersion is 10.8 Å/mm, and for the balance of 800 Å the spectra are at the smaller dispersion of 80 Å/mm. The two later eclipses of 1930 and 1937 added very materially to the results of the two earlier eclipses already published. With grating and coelostat mirror both aluminized, the spectra in 1937 were in greater strength in the extreme ultraviolet than previously, with the result that heights in the chromosphere in kilometers are given for most of the spectrum lines of shortest wave lengths. The spectra of 1930 and 1937 were specially valuable in the region of wave lengths greater than 5000 Å. The 1937 spectra extend to $H\ 11$ of the Paschen series of hydrogen; and this series, up to and including $H\ 40$, was photographed for the first time at an eclipse. Also in this long-wave-length region are the strong Ca^+ triplet, lines of He and O and of a few metals, and the coronium line at 7892 Å.

For much of the region included in the tabular material, the spectra from the four eclipses were available for intercomparison, together with the considerable overlap from 4650 Å to 6800 Å from the 1930 eclipse. It goes without saying that both the heights in the chromosphere and the intensities depend greatly on the sensitivity of the emulsion at different wave lengths. It also goes without saying that vast improvements have been made in photographic emulsions in the quarter-century since the Spanish eclipse of 1905. Hence, with the additional material available, it became desirable to re-estimate both the intensities and the heights of the two earlier eclipses of 1905 and 1925 and then to try to put the results of the four eclipses on as uniform a system as possible. The technique for estimating intensities was simple enough and followed the practice of A. S. King through his long years of work at Mount Wilson. The spectra to be compared, on celluloid films $1\frac{1}{4}$ inches in width, were placed parallel to each other, film side down, on a frame of glass illuminated from beneath. With the dispersion of 10.8 Å/mm, it was a simple matter to clamp to the eclipse film a transparent millimeter scale, in order to keep track of the wave lengths. After completing estimates on a few hundred angstroms, the millimeter scale could be gradually shifted.

As all chromospheric spectra were normal in scale, I had the use of two photographic prints on exactly the same scale for wave lengths; the upper print of the two being the Rowland Atlas of the Fraunhofer spectrum reduced sixfold, and immediately below a fivefold enlargement of the flash spectrum. A reproduction appears in *Ap. J.*, **71**, 48 1930. One could see at a glance, therefore, the striking differences in intensities between the Fraunhofer and the chromospheric spectra. In adopting a scale of intensities for the chromosphere, it seemed the wisest plan to follow as closely as possible the Rowland scale, which has become the standard for solar work. At certain sections of wave lengths, where strong ionized lines became bunched, it was a difficult task to keep to the scale thus established.

The eye and the memory of the observer had to be gradually trained. As a matter of fact, the estimates of differences of intensities of spectral lines resemble the technique of estimating the differences of stellar magnitudes, either visually directly at the telescope or in the office on a photographic plate. The present writer has had experience spread over many years in making thousands and thousands of estimates in deriving the magnitudes of all comparison stars for all the regions adopted by the American Association of Variable Star Observers. As stars approximate points of light and have no peculiarities except that of color, it is a much simpler undertaking to estimate differences of stellar magnitudes than to estimate intensities of spectral lines. With slitless spectra, especially for the stronger chromospheric lines, it is necessary to combine both the blackness and the width in order to furnish the integrated intensity. After long-continued training and experience that started with the spectra of the 1901 eclipse and after consulting many observers, particularly those of Mount Wilson, it is the considered opinion of the present writer that estimates by a trained observer have as high, or even a higher, accuracy than measures by microphotometer of any kind.

To secure the tabular material has been a long-drawn-out task, spread throughout a great number of years. To keep the scales of heights and intensities on as uniform a scale as possible, one might go back and forth to the regions of wave lengths done yesterday, last week, or six months previously. For obvious reasons, the work proceeded from shorter to longer wave lengths.

Both the intensities and the heights in the chromosphere depend on a large number of different factors. For the first flash at the beginning of totality, the chromospheric arcs of lowest levels above the photosphere are covered up by the advancing moon within a small fraction of a second of time. Hence the timing of the exposure is of the very greatest importance. With slitless spectra the character of the seeing is almost equally important. The low-level lines are always superposed on a strong continuous background, and hence, under poorer conditions of seeing, the spectrum line becomes broader and weaker compared with the continuous background and practically disappears. Needless to say, perfect focus is required to obtain the best results. Then, in addition, the mountains on the projected moon are very bothersome, as also are prominences, Baily's beads, "hot spots," or affected areas of the sun.

When two things are compared, such, for instance, as chronometers on ship board, and differences are noted, it is difficult to decide which chronometer is the faulty performer. When scientists compare physical data and differences are noted, it is always so easy to blame the other fellow. With spectra from four different eclipses to compare, differences between eclipses were continually observed, and notes were made on the observing sheets. The problem then arose to know what was best to do with these notes. For the reasons given in the preceding paragraph, differences between one chromospheric spectrum and another were to be expected. The tabular material herewith presented represents what might be called a "weighted average" of the four eclipses.

Chiefly on account of the fine qualities of the seeing and of fortunate timing of the exposures, I regard the 1905 flash spectrum as my best. It reaches lower levels in the photosphere than any of the others. Almost equally good, however, are the 1930 and the 1937 spectra. These two later spectra extended the region of investigation at the ultraviolet end, but most particularly at the red end, up to 8863 Å.

Attention should be called to the fact that the heights in kilometers in the present publication at wave lengths greater than 5000 Å are usually greater than those appearing in the previous publication of 1930. The reason is obvious, namely, the greater sensitivity of the photographic emulsion in the later years.

DIFFERENCES NOTED AT DIFFERENT ECLIPSES

Attention might be called also to some of the differences between the various eclipses. It must be confessed that it was a continual surprise, while the detailed comparisons of

the spectra at the four eclipses were being made, that there were comparatively so few differences in heights and intensities between the different spectra. However, there were certain differences noted, and some of the more pronounced ones are given here. Perhaps the greatest difference of all was in the *CN* band at 3883 Å, the 1905 eclipse showing the banded spectrum in greater strength than in 1930. As the year 1905 was near sun-spot maximum, one is tempted to conclude that the increased solar activity caused greater relative strength to the low-lying *CN* bands. A simpler explanation seems to be the fortunate timing of the exposure in 1905.

The relative intensities of *He* and *He*⁺ at different elevations above the photosphere have been noted by other observers, particularly by Menzel. The *He*⁺ line at 4686 Å has an intensity 2 close to the photosphere, but a greater intensity of 8 at 1000 km and higher. The three eclipses of 1905, 1930, and 1937 tell the same story. The neutral *He* line at 4713 Å has an intensity of 15 at lower heights and 25 at greater heights. The note regarding *He* 5016 states: "Weak at low heights in both years 1905 and 1930, most intense at 'hot spot' in 1930 with intensity 20 at 1000 kms." The *He* line at 4388 Å had an intensity 2 at 500 km, but at 1500 km the intensity was 10 for the three eclipses of 1905, 1930, and 1937. Interesting differences of intensities were noted between the *He* line at 3819.6 and the *Fe* line 3820.4.

Differences in intensities at different eclipses were observed for the stronger lines of certain metallic spectra. For instance, all lines of the strong multiplet, No. 3, of *Mn*⁺ (given in the accompanying tabulation) had greater intensities and extended to greater heights in 1930 as compared with 1905.

Wave Length	1905	1930	Wave Length	1905	1930
3441.98	20	25	3488.68	12	18
3460.31	18	25	3495.83	6	12
3474.04	15	25	3496.81	4	5
3474.12	15	25	3497.54	5	8
3482.90	15	20			

On the average, the stronger lines of *Fe*⁺ and *Ni*⁺ are more intense and extend to greater heights in 1930 than in 1905 and 1925. Many intercomparisons were made between the heavier lines of *Fe*⁺ and *Ti*⁺ and *Cr*⁺. As a general rule, the *Fe*⁺ lines do not extend as high as do the *Cr*⁺ and *Ti*⁺ lines of the same intensity, while the *Cr*⁺ lines are more intense at greater heights than are *Ti*⁺ lines of the same average intensities. The strong *La*⁺ line at 3988.5 had an intensity of 10 in 1905 and the smaller intensity 5 in 1925, 1930, and 1937. It was interesting to note the relative increase in intensities at a "hot spot," for instance, the *Sc*⁺ line at 5657.87 Å and other lines in the same multiplet and for many lines of *Fe*⁺ in the strong multiplet, No. 74, where the strongest line is at 6456.38 Å. Similar effects are found in the strong *Si*⁺ lines at 6347 Å and 6371 Å. It seems unnecessary to record here further differences of the many noted in the intercomparisons of the spectra of the four eclipses. As already stated, most of these differences can be explained by differences in the qualities of seeing and exposure times and by factors noted in the article, "The Relative Distribution and Abundance of the Elements in the Lower Chromosphere," by S. A. Mitchell and Emma T. R. Williams (*Ap. J.*, 77, 1, 1933).

In preparing the present material for publication, the author would again like to express his high appreciation for the rare good luck that has stayed with him throughout the many years of his observations of total eclipses. In the pioneer days of four decades ago, relatively little was known (compared with present-day information) regarding the laboratory spectra of the elements. Lockyer had already pointed out the greater strength of the enhanced lines in the chromosphere, as compared with the Fraunhofer

spectrum; but what were the enhanced lines other than that, for some reason then unknown, they had a greater intensity in the spark than in the arc spectrum? For interpreting the flash spectrum, there was then nothing to do but to draw one's own conclusions by slowly and painfully going to the published literature, by tabulating the results, and then deciding from the estimated intensities, frequently on different scales, just which lines were enhanced and which were not. With this condition as a background, it is little wonder that the author should regard himself as most fortunate in the recent appearance of *A Multiplet Table of Astrophysical Interest* by Charlotte E. Moore (Princeton Observatory, 1945). It was a great joy to have a publication from the highest authority in order to decide on the element both in photosphere and in chromosphere corresponding to a particular wave length.

The chromospheric spectrum is a reversal of that of the photosphere, but with striking differences in intensities. In forming the Fraunhofer line, the radiation from the photosphere passes *radially* through the relatively cooler gases of the chromosphere, while for the flash spectrum the radiation takes place in a direction *tangential* to the photosphere. As the intensity of radiation, both in absorption and in emission spectra, depends on the total number of atoms encountered, it is of the highest importance to be able to evaluate the relative numbers of atoms involved. For deriving this information the heights in kilometers that atoms extend above the photosphere become of major interest. Hence it seems indisputable that the greatest contribution to be made by spectroscopic observations at a total eclipse to our knowledge of conditions in the sun is information regarding the heights that the atoms of the elements extend in kilometers above the photosphere. The heights given in Table 1 cannot record the maximum heights attained by the atoms involved but, rather, the heights where the atoms may be detected, depending on the threshold value of the photographic emulsion. In other words, the number of atoms involved in the tip of a chromospheric arc of *Fe* extending to 400 km is exactly the same number of atoms as are involved in the tip of the 3933 Å line of *Ca⁺* extending to 14,000 km.

In attempting to interpret the differences between flash and Fraunhofer spectra, it was early recognized—and that long before there was any knowledge of multiplet structure—that the strongest lines of any element, like neutral *Fe*, extended to the greatest heights above the photosphere. The greater the heights, the greater became the relative differences in the numbers of atoms involved in the radial and the tangential paths. The Saha theory of ionization explained in quite simple fashion the difficulties that had been so perplexing in the earlier interpretations of eclipse spectra. Hence for a neutral element like *Fe* the spectral lines of greatest strength are those that extended to the greatest heights above the photosphere. The strongest lines of *Fe* are those that involve the greatest number of atoms, and these are the resonance lines and those of low excitation potentials. Similarly, the greatly increased strengths of the enhanced lines in the chromospheric spectrum have the simple explanation of the great heights above the photosphere reached by the ionized atoms. Hence the strongest lines of a neutral element have increased strengths over their intensities in the Fraunhofer spectrum, and they therefore behave almost like enhanced lines.

In making the final draft for Table 1 the writer was again under deep obligation to Charlotte Moore Sitterly in the use of her own revision of the *Revised Rowland*. This revision was particularly helpful in giving the latest reliable information regarding identification of elements, but specially for the intensities given in Rowland. As is well known, these revisions of hers were from spectra taken at the Mount Wilson Observatory. At the greatest wave lengths there are many remarkable alterations in the intensities published in the *Revised Rowland*.

The first column of Table 1 is the wave length measured from eclipse spectra and on the system of the *Revised Rowland*. In giving the "Element" it seemed the wisest plan to confine attention, corresponding to any one wave length, to no more than two elements.

With the help of the *Rowland Atlas* printed on the same scale as the enlarged flash spectrum, with the Allegheny *Map of the Solar Spectrum* for the greater wave lengths, with the *Revised Rowland*, and any other published material, but especially with the *Multiplet Table of Astrophysical Interest*, the author gives what he considers the element, or elements, chiefly responsible for the spectral line of each wave length. The element of greatest importance in the interpretation of the chromospheric spectrum is given first.

In the third and fourth columns, the intensities from Rowland and from the flash spectrum are given, the former called "Sun." For blended lines, the superior figure to the right of the solar intensity gives the number of lines in Rowland blended together. The fifth column gives the heights in kilometers of the vapors of the chromosphere. The excitation potentials recorded are those corresponding to the high atomic level (and taken from the *Multiplet Table*) for the first of the two elements, if two elements are given. When blanks are found in the column of excitation potentials, it is an indication that the line in question is still unclassified. This is true for thirty lines of neutral *Fe*, for a few lines of other elements, and for the carbon molecules *CN*, *CH*, and *C₂*. The low value of the excitation potential belonging to a line of any particular wave length may usually be found by referring to the earlier publication on the spectrum of the chromosphere in *Ap. J.*, Volume 71, or to the *Revised Rowland*.

The diminished intensity in the flash spectrum of the last line in the tabular material at 8862.9 Å is the result of the diminished sensitivity of the emulsion.

TABLE 1

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
3066.32....	Ti^+	3 ²	3	1000	4.02	3187.71....	$He-V^+$	2	10	1500	23.61
3072.16....	Ti^+	3	3	1000	4.05	3188.45....	V^+Fe	6	3	800	4.96
3072.97....	Ti^+	6	5	1000	4.02	3190.82....	Ti^+V^+	7 ³	12	1200	4.95
3075.24....	Ti^+	3	5	1000	4.02	3191.91....	Zr^+Ti	2 ²	2	800	4.66
3078.64....	Ti^+	8	8	1500	4.04	3192.88....	Fe^+Fe	3 ²	7	1000	5.53
3088.02....	Ti^+	7	12	2000	4.05	3193.79....	Fe^+	1	7	1000	5.58
3092.88....	V^+Al	8 ⁴	2	.....	4.38	3195.71....	Y^+Ti^+	3 ²	2	.....	3.97
3102.24....	V^+	3	3	1000	4.34	3196.04....	Fe^+	3	7	1000	5.52
3106.23....	Ti^+	3	2	1000	5.21	3197.01....	Cr^+Fe	6 ³	8	1000	6.39
3110.71....	Ti^+V^+	5	4	1000	5.19	3197.51....	Ti^+Fe	1	2	.....	3.89
3117.75....	Ti^+Ti	5 ³	1	.....	5.18	3200.23....	Y^+Fe	9 ³	3	800	3.99
3118.41....	V^+	3	2	.....	4.29	3202.50....	Ti^+Fe	2	10	1000	4.93
3118.62....	Cr^+	2	12	1500	6.37	3203.32....	Y^+Ti^+	3 ²	4	800	3.96
3119.74....	Ti^+	1	2	.....	5.19	3206.01....	Ti^+	1	2	800	4.93
3120.36....	Cr^+	3	10	1500	6.38	3208.47....	Cr^+V^+	3 ³	2d	600	6.38
3121.02....	V^+Cr^+	4	1	.....	4.34	3209.17....	Cr^+	1	7	1000	6.38
3125.00....	Cr^+	4	15	1500	6.39	3210.49....	Fe^+	2	8	1000	5.56
3125.34....	V^+	5	1	.....	4.27	3211.98....	Fe	4 ³	2	600	6.23
3126.20....	V^+Zr^+	6 ²	2	1000	4.31	3213.27....	Fe^+Ti^+	4 ²	12	1200	5.53
3128.68....	Cr^+	2	6	1500	6.37	3214.12....	Zr^+Fe	7 ⁴	3	800	3.93
3129.12....	Zr^+	0	1	.....	4.47	3214.78....	Ti^+V^+	3	6	1000	3.89
3129.74....	Zr^+	0	2	.....	3.98	3215.34....	$Ca-V$	3 ³	1	600	5.72
3130.40....	V^+Be^+	4 ²	3	1000	4.29	3215.89....	Fe^-	3 ²	1	600	6.30
3130.76....	Ti^+Ti	3	4	1000	3.95	3216.70....	Y^+	1	4	800	3.97
3131.13....	Be^+	1	1	.....	3.94	3217.10....	Ti^+V^+	3 ²	10	1500	3.86
3132.05....	Cr^+	4	20	1500	6.41	3217.40....	Cr^+Fe	2	8	1000	6.37
3133.38....	V^+Zr^+	3 ²	2	.....	4.27	3218.25....	Ti^+	2	5	1000	5.40
3134.17....	$Ni-Fe$	8	0	.....	4.15	3219.77....	$Fe-Cr$	5 ²	2	600	6.25
3135.01....	V^+	2	1	.....	6.45	3220.00....	Fe	4 ²	1	600	6.30
3135.42....	Fe^+Fe	2 ²	1	.....	7.81	3222.89....	Ti^+	4	10	1500	3.84
3136.67....	Cr^+Co	3	6	1000	6.38	3223.51....	Ti	0	1	600	5.84
3138.66....	Zr^+	1	2	.....	4.03	3224.26....	Ti^+	2	5	1000	5.40
3143.75....	Ti^+	4	3	1000	3.95	3225.77....	Fe	3	2	600	6.21
3147.22....	Cr^+	3	5	1000	6.39	3226.79....	Ti^+Fe	3 ²	3	1000	3.85
3148.04....	Ti^+	2	6	1000	3.92	3227.74....	Fe^+Fe	4 ²	12	1200	5.49
3149.96....	Cr^+Fe^+	4 ³	2	800	8.04	3228.59....	Ti^+	2	7	1000	4.90
3152.24....	Ti^+	5	3	800	4.04	3229.23....	Ti^+Fe	5 ²	9	1500	3.82
3154.19....	Ti^+Fe^+	3	6	1000	4.02	3229.43....	Ti^+	2	5	1000	4.95
3155.63....	Ti^+	3	2	800	4.05	3231.32....	Ti^+	2	4	1000	3.95
3157.51....	Ti^{+-}	2 ²	1	.....	3.92	3231.80....	Zr^+V^+	2 ²	2	600	3.86
3158.89....	Ca^+	2	7	1000	7.02	3232.29....	Ti^+	2	6	1000	4.93
3161.19....	Ti^+	3	7	1000	4.02	3232.82....	Fe^+Ni	3 ²	2	600	7.95
3161.80....	Ti^+	3	8	1000	4.02	3234.49....	Ti^+	10	30	2000	3.86
3162.56....	Ti^+	4	10	1000	4.04	3236.15....	Ti^+	1	4	1000	4.89
3163.11....	Fe^+	2 ²	2	.....	5.57	3236.59....	Ti^+	7	25	2000	3.84
3165.98....	Zr^+Fe^+	2	2	.....	4.06	3237.90....	V^+Fe^+	2	3	1000	5.84
3166.40....	Zr^+Fe	3 ³	2	.....	4.70	3239.03....	Ti^+	6	20	2000	3.82
3167.84....	Fe^+Fe	5 ²	4	800	7.69	3239.69....	Ti^+	2	8	1000	4.89
3168.49....	Ti^+	4	12	1200	4.05	3241.12....	Zr^+	1	2	800	3.85
3170.31....	Fe^+	2	3	800	5.58	3242.00....	Ti^+	7	25	2000	3.81
3177.56....	Fe^+	2	2	600	7.77	3243.06....	Ni	6	2	600	3.83
3179.33....	Ca^+	5	8	1000	7.02	3243.74....	Fe^+Mn	2	3	1000	7.94
3180.24....	Fe	3	2	.....	6.32	3245.10....	La^+	-1	2	600	3.98
3180.67....	Cr^+Cr	4 ²	10	1000	6.41	3246.05....	Fe	7 ²	2	600	3.91
3181.30....	Ca^+Cr^+	4 ²	4	1000	7.02	3247.22....	Fe^+Fe	4 ²	3	800	7.94
3183.11....	Fe^+	2	5	1000	5.57	3247.56....	Cu	10	3	800	3.80
3184.08....	Ti^+V	3 ²	2	.....	3.89	3248.64....	Ti^+	1	6	1500	5.04
3185.26....	Fe^+	2	4	1000	5.59	3249.40....	Ti^+	2	2	600	4.87
3186.01....	Ce^+	1 ²	1	.....	4.59	3251.21....	Fe	3	2	600	5.98
3186.72....	Fe^+	3	7	1000	5.56	3251.96....	Ti^+V^+	7 ²	10	1500	3.81
3187.37....	Fe^+	1	2	.....	8.00	3252.94....	Ti^+Mn	9 ²	12	1500	3.82

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
3254.24....	$Ti^+ - Fe$	11 ³	10	1200	3.84	3312.21....	$Co - Fe$	3	1	500	5.67
3254.72....	$V^+ - V$	5	4	800	5.81	3312.75....	$Fe^+ - Ti$	2	4	800	4.80
3255.88....	Fe^+	6	12	1200	4.77	3313.97....	Fe^+	1	7	1000	4.82
3256.46....	$Zr^+ - Fe$	1	2	800	4.50	3314.54....	$Ti - Mn$	5 ²	2	500	4.77
3256.89....	Fe	4 ²	1	600	...	3315.32....	Ti^+	3	7	1000	4.94
3257.41....	Fe^-	10 ³	2	600	4.77	3315.68....	Ni	7	2	500	3.83
3257.91....	V^+	0	2	600	6.27	3317.30....	$Fe - Mn$	4 ³	2d	500	5.99
3258.34....	Mn	3	1	600	5.96	3318.03....	Ti^+	6	8	1000	3.84
3258.73....	Fe^+	3	3	1000	7.66	3319.09....	$Fe - Ti^+$	6 ³	2	500	6.70
3259.06....	Fe^+	3	3	1000	7.67	3320.29....	Ni	7	2	500	3.88
3260.25....	$Ti^+ - Mn$	5	2	800	4.94	3321.71....	Ti^+	4	12	1200	4.94
3261.57....	Ti^+	7 ²	12	1500	5.01	3322.29....	Ni	3	2	500	4.14
3262.37....	Fe	3	2	500	...	3322.91....	Ti^+	8 ²	22	1500	3.86
3263.58....	$Ti^+ - Fe$	8 ²	3d	1000	4.94	3323.75....	Fe	3	2	500	6.53
3264.76....	$Fe^+ - Zr^+$	11 ⁴	4	1000	4.82	3324.06....	Cr^+	4	4	1000	8.47
3265.06....	Fe	2	3	500	5.95	3324.54....	Fe	4 ²	3	500	6.11
3265.64....	$Fe - La^+$	6 ²	2	600	3.87	3325.50....	Fe	3	2	500	6.15
3266.95....	Fe^+	1	1	600	7.53	3326.75....	Ti^+	5	9	1000	3.82
3267.71....	V^+	6	7	1200	4.84	3327.87....	Y^+	2	3	1000	4.12
3270.15....	$Cr^+ - Co$	1	3	800	6.23	3328.40....	Cr^+	2	3	1000	6.12
3271.11....	$V^+ - Zr^+$	11 ²	10	1200	4.86	3328.88....	Fe	3	2	500	6.96
3271.62....	$Ti^+ - Fe$	6	5	1200	5.01	3329.42....	$Ti^+ - Co$	8 ²	20	1500	3.84
3272.17....	$Ti^+ - Zr^+$	7 ²	6	1200	4.99	3329.99....	Mg	5 ²	4	1000	6.40
3273.03....	Zr^+	2	4	800	5.93	3331.73....	Fe	4 ²	3	500	6.13
3274.00....	Cu	10	3	800	3.77	3332.08....	Ti^+	3	15	1200	4.94
3275.29....	Ti^+	3	3	800	4.84	3334.17....	$Zr^+ - Co$	6 ³	3d	600	4.70
3276.12....	V^+	5	10	1200	4.89	3334.62....	Zr^+	0	2	600	4.26
3276.82....	Ti^+	5 ²	4	800	4.84	3335.18....	Ti^+	6 ²	20	1500	3.82
3277.36....	Fe^+	7	20	1200	4.75	3336.30....	$Cr^+ - Fe$	4 ²	8	1000	6.11
3278.26....	Ti^+	5	6	1000	4.99	3336.66....	Mg	8	5	800	6.40
3278.90....	Ti^+	4	8	1000	4.84	3336.90....	$Ti^+ - Ni$	2 ³	2	600	4.87
3279.31....	Zr^+	2	4	800	3.86	3337.38....	$La^+ - Co$	2 ²	3	600	4.10
3279.93....	$Ti^+ - V^+$	3 ²	3	800	4.87	3337.87....	Ti^+	3 ²	4	800	4.93
3281.32....	Fe^+	5	15	1200	4.80	3339.16....	$Fe - Ni$	3 ²	2	500	6.14
3282.33....	Ti^+	5	8	1000	4.98	3339.79....	Cr^+	3	15	1200	6.12
3282.86....	$Zr^+ - Ni$	6 ³	2	800	5.58	3340.33....	Ti^+	5 ²	20	1500	3.81
3284.70....	Zr^+	1	4	600	3.76	3341.88....	$Ti^+ - Fe$	8 ²	35	2000	4.26
3285.41....	Fe^+	2	6	1000	4.83	3342.27....	Fe	6 ²	2	500	5.96
3286.78....	Fe	7	2	600	5.92	3342.61....	Cr^+	3	10	1000	6.14
3287.65....	Ti^+	5	12	1000	5.64	3343.74....	Ti^+	4	10	1000	3.84
3288.18....	Ti^+	3	2	600	3.89	3344.50....	$La^+ - Ca$	2	3	600	3.92
3288.60....	$Ti^+ - Zr^+$	6 ⁴	4	800	4.98	3344.82....	Zr^+	0	3	600	4.70
3289.34....	$V^+ - Fe^+$	7 ²	4	600	4.84	3344.99....	$Zn - Ti$	4 ²	1	400	7.75
3290.88....	Fe	6 ²	1	500	5.96	3346.73....	Ti^+	5 ²	10	1000	3.82
3292.05....	$Fe - Cr^+$	8 ³	3	600	6.99	3347.89....	$Cr^+ - Fe$	6 ²	8d	1000	6.11
3295.49....	Cr^+	2	3	800	7.90	3349.00....	$Ti^+ - Cr$	9 ³	30	1500	3.81
3295.83....	Fe^+	6	15	1200	4.82	3349.41....	Ti^+	9 ²	40	2500	3.73
3298.73....	$V^+ - Co$	5 ²	2	600	4.86	3350.46....	$Ti^+ - Ni^+$	3 ²	3	600	4.84
3299.41....	Ti	2	1	500	4.64	3351.60....	$Fe - Ti$	3 ²	2	500	5.87
3302.14....	Ti^+	4	2	600	3.89	3352.11....	Ti^+	2	4	800	4.90
3302.81....	$Fe^+ - Na$	8 ²	15	1200	4.77	3353.11....	$Cr^+ - Fe$	4 ³	3	500	6.10
3303.51....	$Fe^+ - Fe$	5 ²	10	800	4.83	3353.74....	Sc^+	4	12	1000	3.99
3305.14....	$Zr^+ - Fe$	2	2	500	3.77	3354.35....	$Zr^+ - Co$	3	4	500	4.43
3306.04....	Fe^-	8 ³	2	500	5.92	3354.66....	Ti	3	3	400	3.70
3306.31....	$Zr^+ - Fe$	6 ²	4	600	3.77	3355.22....	Fe	4	2	400	6.97
3307.08....	$Cr^+ - La^+$	4 ³	4	600	7.88	3356.11....	Zr^+	1	4	600	3.77
3307.74....	$Ti^+ - Cr$	4	2	500	3.85	3357.37....	$Zr^+ - Cr^+$	3 ²	4	600	3.68
3308.80....	$Ti^+ - Mn$	7 ²	7	1000	3.86	3358.50....	Cr^+	4	15	1200	6.12
3309.54....	$Ti - Ti^+$	2	1	400	4.78	3359.72....	Sc^+	2	3	800	3.68
3310.55....	$Fe - Cr^+$	6 ³	1	400	6.97	3360.05....	Zr^+	3 ²	2	500	5.15
3311.87....	$Cr^+ - Mn$	2	3	600	7.86	3360.35....	Cr^+	2	12	1000	6.76

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
3361.24....	Ti^+Sc^+	5 ²	30	2500	3.70	3412.46....	Co	9 ²	2	400	3.62
3361.98....	Sc^+Ca	3 ²	6d	600	3.67	3413.14....	Fe	5	3	500	5.80
3362.69....	Ti^+Zr^+	1	2	500	4.89	3413.51....	Ni^-	4 ²	2	400	3.78
3363.75....	Cr^+Ni	3 ³	3	800	6.09	3413.99....	Ni	4	3	400	3.72
3364.62....	Ni	3	1	500	7.03	3414.78....	Ni	15	8	1000	3.64
3365.77....	Ni	6	2	500	4.09	3415.54....	Fe	3	3	600	5.83
3366.21....	Ti^+Ni	6	6	1000	4.89	3416.03....	Fe^+	3	4	800	5.88
3366.82....	$Fe-Ni$	6 ²	3	500	5.85	3416.99....	Ti^+	1	3	800	4.84
3368.07....	Cr^+	5	20	1500	6.14	3417.84....	Fe	4 ²	2	400	5.82
3368.92....	Sc^+	3	8	800	3.67	3418.48....	Fe	5	2	600	5.82
3369.22....	Ti^+	1	3	800	4.89	3419.70....	Fe	2	1	400	6.44
3369.63....	Ni	6	3	500	3.66	3421.25....	Cr^+	4	25	1500	6.02
3370.82....	Fe	4	2	400	6.34	3422.71....	Cr^+Fe	7 ²	25	1500	6.05
3371.76....	$Ni-Ti$	7 ²	2d	400	3.82	3423.71....	Ni	7	4	500	3.82
3372.21....	Ti^+Sc^+	3 ²	6	800	4.26	3424.27....	Fe	4	2	500	5.77
3372.84....	Ti^+	10 ²	40	2500	3.67	3425.00....	Fe	4	2	500	6.64
3374.32....	Ti^+Ni	6 ²	6	1000	4.89	3425.56....	Fe^+	2	3	500	5.27
3374.64....	Zr^+Ni	3 ²	4	600	4.65	3426.32....	Fe	6 ²	4	600	4.59
3376.40....	La^+Ni	4 ²	2	400	3.98	3426.70....	Fe	5 ²	2	600	5.79
3377.56....	Ti	6 ²	2	400	3.67	3427.12....	Fe	6 ³	4	600	5.77
3378.34....	Cr^+Zr^+	2	7	1000	6.74	3428.18....	Fe	4	2	500	5.79
3379.35....	Cr^+Sc^+	2	4	800	6.74	3428.46....	Ni	2 ²	1	400	7.28
3379.87....	Cr^+Ti^+	4 ²	7	1000	6.74	3430.57....	Zr^+	1	5	1000	4.06
3380.25....	Ti^+Fe	9 ³	15	1500	3.70	3431.59....	Co	4	3	500	3.70
3380.70....	La^+Sr	12 ³	4	600	3.97	3432.43....	Zr^+	-	1	2	500
3382.40....	$Fe-Ti$	4 ³	3	600	5.82	3433.34....	Cr^+	3	22	1500	6.02
3382.72....	Cr^+	4	15	1500	6.09	3434.09....	$Fe-Cr$	2	1	400	6.34
3383.84....	Ti^+Fe	9 ³	40	2500	3.65	3435.49....	Ni	1	1	400	5.26
3385.08....	Co	5 ³	3	500	4.16	3436.00....	Fe^+Cr	4 ⁴	2d	400	7.54
3385.95....	Ti	3	2	500	3.69	3437.19....	$Ni-Fe$	8 ³	3d	500	3.59
3387.40....	Fe	2	1	400	6.39	3438.22....	Zr^+	2	8	1000	3.68
3387.88....	Ti^+Zr^+	5	20	1500	3.67	3438.97....	Mn^+Fe	4 ²	6	1000	4.76
3388.80....	Ti^+	2	4	600	4.87	3440.62....	Fe	20	15	1500	3.59
3389.75....	Fe	2	2	400	5.85	3441.01....	Fe	15	12	1500	3.64
3391.05....	$Ni-Cr$	6 ²	2	400	3.64	3441.97....	Mn^+	6	25	1500	5.35
3391.42....	Cr^+	2	5	800	6.05	3443.22....	Ti^+Fe	3 ³	3	800	5.62
3391.96....	Zr^+	2	6	800	3.80	3443.87....	Fe	8	8	1000	3.67
3392.60....	$Fe-Ti$	3 ²	3	500	5.80	3444.30....	Ti^+	4	15	1500	3.73
3392.98....	Ni	3	3	800	3.66	3445.09....	Fe	5	3	500	5.07
3393.14....	Cr^+Zr^+	2 ²	8	1000	6.73	3445.58....	Cr	2	2	400	6.11
3393.80....	Cr^+	2	6	800	6.73	3446.27....	Ni	15	8	800	3.69
3394.30....	Cr^+	2	4	800	6.74	3447.30....	Fe	4	3	600	5.77
3394.56....	Ti^+Fe	6 ²	20	1500	3.65	3448.87....	Y^+Fe	1 ²	3	600	3.99
3395.37....	$Co-Fe^+$	5 ²	2	400	4.51	3449.21....	Co	5	3	400	4.16
3396.37....	Zr^+Fe	1 ²	3	800	4.59	3449.48....	Co	6	3	400	4.01
3397.00....	Fe	3	2	400	4.59	3450.31....	Fe	5	2	500	5.79
3399.30....	Zr^+Fe	5 ²	5	800	3.95	3451.90....	Fe	3	2	400	5.79
3401.51....	Fe	3	2	400	4.54	3452.47....	Ti^+	1	6	800	5.61
3402.27....	Fe	3	2	400	6.85	3452.89....	Ni	6	5	800	3.68
3402.43....	Ti^+Cr^+	3	10	1200	4.84	3453.32....	Cr	0	1	400	6.11
3403.35....	Cr^+Ni	6 ³	18	1500	6.05	3453.56....	Co	5	3	400	4.00
3404.35....	Fe	5 ²	3	500	5.81	3454.19....	Ni^+	1	3	600	6.51
3404.80....	Zr^+Fe	2 ²	4	800	3.98	3455.30....	Co	5	2	400	3.80
3406.44....	Fe	3	2	400	6.88	3456.44....	Ti^+	3	12	1000	5.62
3406.78....	Fe	5	3	500	5.84	3457.64....	Zr^+	0	2	400	4.13
3407.21....	Ti^+Ni^+	4 ²	8	1000	3.67	3458.40....	$Ni-Fe$	11 ²	10d	1000	3.78
3407.52....	Fe	7 ²	3	500	5.79	3459.43....	Fe	2	1	400	6.25
3408.81....	Cr^+	3	25	1500	6.09	3459.92....	Mn^+Fe	6 ³	6	800	4.74
3409.79....	Ti^+	2	6	800	3.65	3460.32....	Mn^+	4	25	1500	5.37
3410.22....	Zr^+Fe	3 ²	4	800	4.03	3461.46....	Ti^+	5	15	1500	3.70
3411.33....	Fe	3	2	400	6.33	3461.68....	Ni	8	6	800	3.59

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
3462.79....	<i>Co</i>	6	3	400	4.19	3511.86....	<i>Cr+</i>	2	4	600	5.99
3463.18....	<i>Zr+Fe</i>	2 ²	4d	600	5.04	3512.63....	<i>Co</i>	6	3	400	4.09
3464.12....	<i>Sr+Fe</i>	4 ³	4d	800	6.59	3513.52....	<i>Co</i>	5	2	400	3.61
3465.79....	<i>Ti+-Co</i>	12 ⁴	12d	1000	5.61	3513.85....	<i>Fe</i>	7	4	600	4.37
3466.67....	<i>Fe</i>	6 ³	2	400	4.42	3514.03....	<i>Ni+-Ni</i>	7 ²	9	800	6.36
3467.61....	<i>Ni-Cr</i>	5 ²	3	400	3.72	3515.01....	<i>Ni</i>	12	10	800	3.62
3468.78....	<i>Fe+-Fe</i>	4 ³	5	800	7.69	3516.22....	<i>Ni</i>	2	1	400	7.03
3469.49....	<i>Ni</i>	3	2	400	3.83	3516.55....	<i>Fe</i>	4 ²	2	400	6.36
3469.84....	<i>Fe</i>	2	2	400	6.15	3517.33....	<i>V+</i>	3	9	1000	4.63
3471.36....	<i>Fe-Co</i>	6 ²	4d	600	5.82	3518.32....	<i>Co</i>	5	3	500	4.55
3472.60....	<i>Ni-</i>	7 ²	6	800	3.66	3518.81....	<i>Fe</i>	6 ²	3	600	5.70
3473.61....	<i>Fe-Cr</i>	3 ³	2	400	4.54	3519.74....	<i>Ni</i>	7	5	600	3.78
3474.11....	<i>Mn⁺</i>	4 ²	25	1500	5.35	3520.23....	<i>Ti⁺</i>	2	12	1000	5.54
3475.15....	<i>Cr⁺</i>	2	6	1000	5.97	3520.88....	<i>Zr⁺</i>	2	2	400	4.06
3475.44....	<i>Fe</i>	10	10	1000	3.64	3521.32....	<i>Fe</i>	8	6	600	4.42
3476.68....	<i>Fe</i>	8	7	800	3.67	3521.57....	<i>Co</i>	7 ²	3	400	3.93
3476.99....	<i>Ti⁺</i>	3	8	1000	3.70	3521.77....	<i>Fe-V⁺</i>	2	1	400	5.72
3477.17....	<i>Ti⁺</i>	5	15	1500	3.67	3522.90....	<i>Fe</i>	2	2	400	6.37
3478.60....	<i>Fe+-Zr⁺</i>	3 ⁵	3d	500	5.88	3523.47....	<i>Co-Ni</i>	4	3	400	4.13
3479.40....	<i>Zr⁺</i>	2	6	800	4.26	3524.12....	<i>Fe</i>	6 ²	3	400	5.77
3480.39....	<i>Zr⁺-Ti</i>	3 ³	2	600	4.47	3524.50....	<i>Ni</i>	20	15	1000	3.53
3480.90....	<i>Ti⁺</i>	2	3	600	4.62	3524.78....	<i>V⁺</i>	1	2	400	4.59
3481.20....	<i>Zr⁺</i>	2	8	800	4.34	3525.77....	<i>Zr+-Co</i>	6 ²	6	800	3.86
3482.95....	<i>Mn⁺</i>	5	20	1500	5.37	3526.31....	<i>Fe</i>	9 ⁴	4d	800	5.77
3483.65....	<i>Ni-Co</i>	9 ³	4	500	3.82	3526.75....	<i>Co-Fe</i>	10 ²	4	600	3.50
3484.16....	<i>Cr⁺</i>	4	3	500	5.99	3527.79....	<i>Fe</i>	5	3	500	6.34
3484.96....	<i>Fe-Ni</i>	4 ³	2	400	5.96	3529.02....	<i>Co-Ni</i>	4 ²	3	500	3.67
3485.37....	<i>Fe-Co</i>	6	3	500	5.73	3529.71....	<i>Co-Fe</i>	9 ³	4d	600	4.01
3485.94....	<i>V^{+-Ni}</i>	5	3	500	4.63	3530.72....	<i>V⁺</i>	3	10	1000	4.56
3488.09....	<i>Fe+-Ni</i>	3 ²	6	800	5.23	3531.63....	<i>Mn-Fe</i>	6 ³	6	600	5.77
3488.68....	<i>Mn⁺</i>	4	18	1200	5.38	3532.00....	<i>Mn</i>	7 ²	6	600	5.77
3489.42....	<i>Co</i>	5	2	400	4.46	3532.50....	<i>Fe</i>	4	2	400	.....
3489.76....	<i>Ti⁺</i>	2	8	1000	3.67	3533.21....	<i>Fe-Co</i>	17 ³	4	600	6.36
3490.60....	<i>Fe</i>	10	10	800	3.59	3533.89....	<i>Ti⁺</i>	1	5	800	5.54
3491.03....	<i>Ti⁺</i>	5	15	1200	3.65	3534.91....	<i>Fe-</i>	3	2	400	5.97
3492.93....	<i>Ni</i>	10	8	1000	3.64	3535.41....	<i>Ti⁺</i>	4	25	1200	5.54
3493.14....	<i>V⁺</i>	0	4	800	4.60	3535.69....	<i>Sc⁺</i>	3	4	800	3.80
3493.46....	<i>Fe+-Ti</i>	3 ²	2	600	7.66	3536.56....	<i>Fe</i>	7	4	500	6.35
3494.18....	<i>Fe</i>	2	2	500	5.95	3537.80....	<i>Fe</i>	9 ³	3	400	6.31
3494.64....	<i>Fe+-Cr⁺</i>	3 ²	8	800	5.80	3538.26....	<i>V^{+-Fe}</i>	2 ²	3	400	4.61
3495.34....	<i>Cr^{+-Fe}</i>	5 ²	3	600	5.97	3540.08....	<i>Fe</i>	5	2	400	6.34
3495.68....	<i>Mn^{+-Co}</i>	7 ³	12	1200	5.38	3540.75....	<i>Fe</i>	5 ²	3	600	4.40
3496.18....	<i>Zr^{+-Y⁺}</i>	3 ²	15	1200	3.57	3541.08....	<i>Fe</i>	7	6	600	6.32
3497.00....	<i>Mn^{+-Fe}</i>	9 ⁴	5	800	5.35	3542.16....	<i>Fe</i>	9 ²	6d	600	6.34
3497.57....	<i>Mn⁺</i>	3	8	1000	5.37	3543.36....	<i>Co-Fe</i>	4 ²	3d	400	5.36
3497.87....	<i>Fe</i>	8	8	800	3.64	3544.63....	<i>Fe</i>	3	2	400	6.08
3499.12....	<i>Ti-Er⁺</i>	0	3	500	4.59	3545.23....	<i>V⁺</i>	4	10	1000	4.57
3500.43....	<i>Ti^{+-Fe}</i>	5 ²	6d	800	3.65	3545.69....	<i>Fe</i>	8 ²	4	400	6.32
3500.89....	<i>Ni</i>	6	2	500	3.69	3547.25....	<i>Fe</i>	6 ²	2d	400	6.28
3501.72....	<i>Co⁺</i>	1 ²	2	500	5.72	3547.98....	<i>Mn-Ni</i>	13 ³	6d	500	5.77
3502.26....	<i>Co</i>	6 ²	3	500	3.95	3549.05....	<i>Y⁺</i>	2	8	1000	3.61
3502.65....	<i>Ni-Co</i>	4 ²	3	600	3.52	3550.59....	<i>Co</i>	4	3	400	3.65
3504.44....	<i>V⁺</i>	2	3	800	4.61	3551.41....	<i>Ni-Fe</i>	5 ²	2	400	3.64
3504.88....	<i>Ti^{+-Fe}</i>	5 ²	20	1500	5.40	3551.92....	<i>Zr⁺</i>	1	7	800	3.57
3505.63....	<i>Zr⁺</i>	2 ²	4	600	3.68	3552.92....	<i>Fe-Co</i>	7 ³	2	500	6.34
3506.43....	<i>Co-Fe</i>	9 ³	3d	600	4.03	3553.63....	<i>Fe-Ni</i>	8 ²	3	500	7.03
3507.57....	<i>Ni-Fe</i>	4 ²	3	400	3.68	3554.12....	<i>Fe</i>	5	4	600	4.43
3508.40....	<i>Fe-Fe⁺</i>	6 ³	3	600	6.50	3554.92....	<i>Fe</i>	9	6	600	6.29
3509.86....	<i>Co-Ti⁺</i>	4	2	400	4.10	3556.71....	<i>V^{+-Zr⁺}</i>	11 ⁴	15d	1200	4.59
3510.33....	<i>Ni-Zr⁺</i>	10 ²	6	800	3.73	3558.52....	<i>Sc^{+-Fe}</i>	8	12	1000	3.48
3510.87....	<i>Ti⁺</i>	5	20	1500	5.40	3559.10....	<i>Fe-CN</i>	1	1	400	.....

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
3559.50....	<i>Fe</i>	3	2	400	6.53	3602.50....	<i>Fe</i>	7 ²	4	500	6.28
3560.67....	<i>Fe-V⁺</i>	3 ²	2	500	6.70	3603.17....	<i>Fe</i>	5	4	500	6.11
3560.91....	<i>Co</i>	4	3	500	4.09	3603.84....	<i>Cr⁺-Fe</i>	7 ³	12	1000	6.12
3561.72....	<i>Ti⁺-Ni</i>	5 ³	5d	800	4.04	3604.38....	<i>Fe-Ti</i>	3 ²	2	400	6.29
3564.15....	<i>Fe-Co</i>	4	3	600	5.06	3605.33....	<i>Cr-Co</i>	16 ³	12d	1000	3.42
3564.49....	<i>Fe</i>	5 ²	3	400	5.90	3606.69....	<i>Fe</i>	6	6	600	6.10
3565.37....	<i>Fe-Ti⁺</i>	15 ²	15	1200	4.42	3607.46....	<i>Mn-Zr⁺</i>	3 ²	2	500	5.55
3565.94....	<i>Ti⁺</i>	1	3	600	4.62	3608.17....	<i>Fe</i>	4	3	500	6.26
3566.15....	<i>V^{+-Cr}</i>	2	3	600	4.53	3608.86....	<i>Fe</i>	20	18	1500	4.43
3566.43....	<i>Ni</i>	10	10	600	3.88	3609.36....	<i>Ni</i>	5	3	400	3.53
3567.00....	<i>Fe</i>	3 ²	3	500	6.32	3609.53....	<i>Cr</i>	2	2	400	5.95
3567.73....	<i>Sc⁺</i>	6 ²	12	1000	3.46	3610.18....	<i>Fe-Ti</i>	7 ²	5	600	6.21
3568.59....	<i>Fe-Co</i>	6 ²	3d	500	6.32	3610.63....	<i>Ni-Fe</i>	8 ²	3	600	3.53
3569.55....	<i>Co-Mn</i>	11 ³	4d	600	4.38	3611.06....	<i>Y⁺</i>	2	10	1000	3.55
3570.14....	<i>Fe-Mn</i>	24 ²	18	1200	4.37	3611.81....	<i>Zr^{+-Co}</i>	2 ²	3	400	5.15
3571.96....	<i>Ni-Fe</i>	11 ²	5	500	3.62	3612.72....	<i>Ni</i>	6	2	400	3.69
3572.52....	<i>Sc⁺-Zr⁺</i>	10 ²	20	1200	3.48	3613.09....	<i>Zr^{+-Fe}</i>	6 ³	8	800	3.45
3573.39....	<i>Ti^{+-Fe}</i>	12 ⁵	7d	800	4.02	3613.82....	<i>Sc⁺</i>	7 ²	30	1500	3.44
3573.97....						3614.75....	<i>Zr⁺</i>	2	8	800	3.77
3574.43....	<i>V^{+-Cr}</i>	1	1	400	5.81	3615.71....	<i>Cr-Fe</i>	3	2	400	3.41
3575.00....	<i>Co-Fe</i>	8 ²	3	500	4.03	3616.20....	<i>Fe</i>	3 ²	2	400	5.83
3575.35....	<i>Co-Fe</i>	4 ²	2	500	3.55	3616.57....	<i>Fe</i>	4	3	400	.....
3576.00....	<i>Fe</i>	4	3	500	6.31	3617.34....	<i>Cr^{+-Fe}</i>	5 ²	2	500	8.32
3576.38....	<i>Sc⁺</i>	7 ²	20	1200	3.46	3617.82....	<i>Fe</i>	6	3	400	6.42
3576.89....	<i>Zr⁺</i>	1	6	800	3.86	3618.77....	<i>Fe</i>	20	20	1500	4.40
3577.83....	<i>Mn</i>	5	3	500	5.55	3619.42....	<i>Ni</i>	8	12	800	3.83
3578.25....	<i>Fe-Zr⁺</i>	5 ²	5	400	6.32	3619.76....	<i>Fe</i>	2	1	400	5.80
3578.73....	<i>Cr</i>	10	12	1200	3.45	3620.23....	<i>Fe</i>	2	1	400	6.25
3579.83....	<i>Fe</i>	2	2	500	6.67	3620.46....	<i>V^{+-Fe}</i>	3	2	400	6.52
3580.96....	<i>Sc⁺</i>	5	10	1000	3.45	3621.14....	<i>V^{+-Fe}</i>	5 ²	3	800	5.77
3581.22....	<i>Fe</i>	30	25	1500	4.30	3621.49....	<i>Fe</i>	6	6	800	6.12
3581.76....	<i>Fe</i>	5 ³	2	400	6.13	3621.99....	<i>Fe</i>	6	4	800	6.15
3582.20....	<i>Fe</i>	7 ²	3	400	6.67	3623.30....	<i>Fe</i>	7 ²	5d	800	5.30
3582.60....	<i>Fe</i>	5 ²	2	400	6.31	3623.89....	<i>Fe-Mn</i>	5 ²	2	600	6.26
3583.87....	<i>CN-*</i>	3	3d	600	.....	3624.39....	<i>Ni-Ca</i>	10 ³	5d	600	3.40
3584.62....	<i>Y^{+-Fe}</i>	8 ²	8	800	3.55	3624.84....	<i>Ti⁺</i>	5	18	1200	4.62
3584.95....	<i>Fe</i>	6	4	600	6.43	3626.86....	<i>Fe</i>	4 ²	2d	400	6.96
3585.30....	<i>Fe-Co</i>	12 ²	10	1200	4.40	3627.85....	<i>Co</i>	4	2	400	3.91
3585.63....	<i>Fe-Cr^{+-†}</i>	8 ²	12	1200	4.35	3628.71....	<i>Y⁺</i>	2	7	1000	3.53
3586.53....	<i>Mn</i>	4	3	500	5.57	3630.01....	<i>Zr⁺</i>	1	4	800	3.76
3586.85....	<i>Fe</i>	11 ²	5	800	4.43	3630.73....	<i>Sc^{+-Ca}</i>	7 ²	30	1500	3.41
3587.20....	<i>Ti^{+-Co}</i>	9 ²	12	800	4.05	3631.48....	<i>Fe</i>	15	20	1500	4.35
3587.59....	<i>Fe</i>	8 ²	3	400	5.85	3632.01....	<i>Fe-Co</i>	5 ²	2	400	6.46
3587.98....	<i>Zr^{+-Ni}</i>	6	5	600	3.76	3632.60....	<i>Fe-Cr</i>	4 ²	2	400	6.33
3588.62....	<i>Fe</i>	7 ²	2	400	6.26	3632.96....	<i>Fe</i>	6 ²	2	400	5.87
3589.13....	<i>Fe</i>	8 ³	5	600	4.29	3633.13....	<i>Y⁺</i>	2	10	1000	3.40
3589.72....	<i>V^{+-Sc⁺}</i>	10 ²	12	800	4.50	3633.85....	<i>Fe</i>	5 ²	2	400	6.37
3590.48....	<i>Sc^{+-‡}</i>	4 ²	12	800	3.46	3634.25....	<i>He-Fe</i>	6 ²	4d	1200	24.27
3591.43....	<i>Fe</i>	4 ²	5	600	6.28	3634.71....	<i>Co-Fe</i>	4	2	400	6.26
3592.00....	<i>V⁺</i>	2	12	800	4.53	3635.34....	<i>Ti-Fe</i>	6 ²	4d	500	3.39
3592.67....	<i>Fe</i>	3	4	400	6.66	3636.18....	<i>Fe</i>	5 ²	4	500	5.58
3593.41....	<i>V^{+-Cr}</i>	12 ²	15	1000	4.56	3636.56....	<i>Zr^{+-Cr}</i>	3 ²	3	500	3.86
3594.78....	<i>Fe-Co</i>	9 ²	5d	500	6.27	3636.81....	<i>Fe-Co</i>	6 ³	3	500	5.97
3595.20....	<i>Fe-Mn</i>	3 ²	2	400	6.30	3637.84....	<i>Fe</i>	4	3	500	6.32
3596.03....	<i>Ti⁺</i>	4	15	1200	4.04	3638.31....	<i>Fe</i>	3	3	400	6.14
3597.03....	<i>Fe</i>	5	3	400	6.68	3639.43....	<i>Co</i>	4 ³	2	400	5.34
3597.71....	<i>Ni</i>	8	6	600	3.64	3639.80....	<i>Cr</i>	2	2	400	5.92
3599.00....	<i>Fe</i>	6 ³	4d	600	6.30	3640.41....	<i>Fe-Cr</i>	6	4	600	6.11
3599.58....	<i>Fe</i>	3	3	600	6.99	3641.35....	<i>Ti⁺</i>	4	25	1500	4.62
3600.77....	<i>Y⁺</i>	3	18	1200	3.61	3641.81....	<i>Cr-Co</i>	2 ²	2	500	5.92
3601.89....	<i>Y⁺</i>	1	12	1000	3.53	3642.74....	<i>Sc^{+-Ti}</i>	12 ³	25	1500	3.39

* Third head of fourth *CN* band.† Second head of fourth *CN* band.‡ First head of fourth *CN* band.

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
3643.75....	<i>Fe-Ca</i>	9 ³	3	500	6.31	3685.25....	<i>Ti+Fe-V</i>	10	90	6000	3.92
3644.41....	<i>Ca-Fe</i>	5	3	500	5.28	3686.10....	<i>H 19</i>	9 ²	4	600	6.28
3644.83....	<i>Sc+-Fe</i>	9 ³	4	500	5.28	3686.83....	<i>F_e</i>	10 ²	8	600	4.20
3645.34....	<i>Sc+-Ti-Gd⁺</i>	6 ²	12	1200	3.41	3687.62....	<i>Ni-Fe</i>	7 ²	3	500	3.62
3646.17....	<i>Ti-Gd⁺</i>	1	3	400	3.38	3688.48....	<i>F_e-Ti-Fe</i>	3 ²	3	400	3.39
3647.41....	<i>Fe</i>	4	3	400	4.93	3689.50....	<i>Co-Fe</i>	4	3	400	5.38
3647.81....	<i>Fe</i>	12	18	1500	4.29	3689.90....	<i>Ti-Fe</i>	40	3500	13.50	13.50
3649.35....	<i>Fe-Co</i>	7 ²	4	600	3.38	3690.70....	<i>H 18</i>	1	1	400	3.62
3649.56....	<i>Fe</i>	5	3	600	6.06	3691.62....	<i>V</i>	2	4	800	.....
3650.19....	<i>Fe</i>	9 ²	4	600	5.80	3692.24....	<i>Fe-Er⁺</i>	3	2	400	6.35
3651.08....	<i>Fe</i>	6	4	400	6.22	3692.67....	<i>Fe</i>	1	3	400	5.37
3651.47....	<i>Fe</i>	7	4	500	6.13	3693.02....	<i>Co</i>	10 ⁴	10	800	6.37
3651.77....	<i>Sc⁺</i>	4	15	1200	3.39	3693.48....	<i>Fe-Ni</i>	5	5	600	5.92
3652.55....	<i>Co</i>	3	2	400	3.55	3694.13....	<i>Fe-V</i>	4 ³	3	600	5.89
3653.48....	<i>Ti</i>	5	2	400	3.43	3695.00....	<i>Ti⁺</i>	1 ²	4	600	4.90
3653.93....	<i>Fe-Cr</i>	6 ³	3	400	5.80	3695.67....	<i>H 17</i>	40	4000	13.49	13.49
3654.66....	<i>Ti-Fe</i>	3 ²	2	400	3.38	3696.34....	<i>Zr⁺-Ti</i>	2	8	800	4.34
3655.64....	<i>Fe</i>	6 ²	3	500	6.20	3697.21....	<i>Fe</i>	4	3	400	6.34
3656.19....	<i>Cr-Fe</i>	5 ²	3	500	5.91	3698.14....	<i>Fe-Co</i>	12 ⁴	6d	600	4.93
3656.66....	<i>H 37</i>	.....	2	600	13.53	3698.60....	<i>H 16</i>	45	4500	13.49	13.49
3657.26....	<i>H 36</i>	.....	4	800	13.53	3699.16....	<i>He</i>	5	1200	24.21	24.21
3658.05....	{ <i>H 35</i>	.....	3	800	13.53	3700.39....	<i>Fe</i>	9	12	1200	3.38
3658.19....	<i>Ti</i>	1	3	3.39	3701.09....	<i>V⁺</i>	1	4	600	5.84	5.84
3658.66....	<i>H 34</i>	.....	2	800	13.53	3702.27....	<i>Ti-Co</i>	10 ²	8	800	3.42
3659.42....	<i>H 33</i>	.....	3	1000	13.53	3703.89....	<i>Co-Fe</i>	2 ²	3	400	5.36
3659.70....	<i>Ti⁺-Fe</i>	10 ²	12d	1000	4.95	3704.97....	<i>H 15</i>	5	12	1200	6.44
3660.33....	{ <i>H 32</i>	.....	4	800	13.53	3705.57....	<i>Ca⁺-Ti⁺</i>	25	1200	6.31	6.31
3661.28....	<i>Fe</i>	2	6	1000	6.22	3706.11....	<i>Fe</i>	5	4	600	5.34
3662.23....	{ <i>H 30</i>	.....	18	1500	13.52	3707.08....	<i>Ti⁺</i>	4 ²	2	400	3.42
3662.90....	<i>Cr-Fe</i>	4	3	500	5.90	3708.69....	<i>Fe</i>	8	10	800	4.24
3663.42....	{ <i>H 29</i>	.....	10	1200	13.52	3709.32....	<i>Ti</i>	0	2	400	4.37
3664.66....	{ <i>Y⁺</i>	2	15	1500	3.55	3710.90....	<i>Y⁺</i>	3	20	1200	3.51
3666.09....	<i>H 28</i>	.....	12	1500	13.52	3712.06....	<i>H 15</i>	50	5000	13.48	13.48
3666.74....	<i>Sc⁺-Fe</i>	4 ²	3	500	3.39	3712.89....	<i>Cr⁺-Mn</i>	5 ²	15	800	6.02
3667.26....	<i>Fe</i>	4	3	400	6.56	3714.85....	<i>Zr⁺</i>	0	2	500	3.85
3667.74....	<i>H 26</i>	.....	15	1800	13.52	3715.17....	<i>Cr⁺</i>	2	7	800	6.41
3668.53....	<i>Zr⁺-V⁺</i>	0 ²	4	600	3.77	3715.43....	<i>V⁺</i>	4	10	800	4.89
3669.46....	<i>H 25</i>	.....	22	1800	13.52	3716.40....	<i>Fe</i>	7	6	500	6.25
3670.08....	<i>Fe-Co</i>	5 ²	2	400	6.20	3717.40....	<i>Ti</i>	2	2	400	3.32
3670.46....	<i>Ni</i>	5	5	500	3.53	3718.40....	<i>Fe</i>	4	3	600	6.07
3671.33....	{ <i>Zr⁺</i>	0	20	2000	4.07	3719.94....	<i>Fe</i>	40	35	2000	3.32
3671.68....	{ <i>H 24</i>	.....	20	2000	13.52	3721.64....	<i>Ti⁺</i>	4	6	2000	3.89
3673.08....	<i>Fe</i>	3	3	400	3.41	3722.00....	<i>H 14</i>	60	5500	13.47	13.47
3673.82....	<i>H 23</i>	.....	22	2000	13.51	3722.55....	<i>Fe-Ni</i>	9 ²	12	1200	3.40
3674.74....	<i>Zr⁺-Fe</i>	3 ²	8	800	3.68	3723.55....	<i>Ti⁺</i>	1	4	600	4.87
3675.34....	<i>Sc⁺-Ca</i>	1	3	400	3.67	3724.40....	<i>Ti⁺</i>	1	6	600	5.58
3676.34....	{ <i>Fe-Cr</i>	6	25	2500	5.91	3725.00....	<i>Fe</i>	6	2	400	4.37
3677.37....	<i>H 22</i>	.....	4	500	13.51	3725.50....	<i>Ti-Ni</i>	3	2	400	6.35
3677.79....	<i>Fe</i>	7 ²	4	500	5.62	3726.98....	<i>Fe</i>	7 ²	4	600	6.34
3679.34....	<i>Cr⁺-Fe</i>	13 ⁴	20	1200	6.05	3727.39....	<i>V⁺-Cr⁺</i>	3 ³	8	800	4.99
3679.96....	<i>H 21</i>	.....	30	2500	13.51	3727.68....	<i>Fe-Zr⁺</i>	5 ²	10	800	4.26
3680.97....	<i>Fe</i>	9	10	1000	3.35	3728.38....	<i>V⁺-Ce⁺</i>	5 ²	3	400	5.81
3682.21....	<i>Fe</i>	10 ³	4d	600	6.55	3729.86....	<i>Ti</i>	3	3	400	3.31
3682.82....	<i>H 20</i>	.....	30	2500	13.51	3730.39....	<i>Co-Fe</i>	5 ²	5	500	5.18
3684.12....	<i>Fe</i>	7	4	500	6.07	3731.98....	<i>Zr⁺-Fe</i>	7 ³	5	500	5.04
							<i>Cr-Mn</i>	3 ²	2	400	3.31

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
3732.40....	Fe-Co	6	4	500	5.49	3779.59....	Fe-Fe ⁺	3 ²	2	450	5.48
3732.76....	V ⁺	2	4	600	4.86	3780.48....	Zr-CN	1 ²	2	450	3.26
3733.33....	Fe	7	8	1000	3.42	3780.95....	Fe-	6 ²	2	450	5.45
3734.45....	H 13	....	70	6000	13.46	3781.66....	Ce ⁺ -CN	1 ²	2	450	3.79
3734.91....	Fe	40	20	2000	4.16	3782.26....	Y ⁺ -CN	0 ²	2	450	6.87
3735.46....	Fe-Nd ⁺	5 ²	5	600	6.23	3783.47....	Ni-Fe ⁺	8 ²	10	750	3.69
3737.00....	{Ca ⁺ -Ni	8 ²	50	2000	6.44	3784.15....	CN	2 ⁴	2	500	....
	Fe	30				3785.36....	CN	2 ³	2	500	....
3738.29....	Fe-Cr ⁺	6 ²	5	600	6.55	3785.58....	CN	1 ²	2	500	....
3739.15....	Ni-Fe	5 ²	4	800	3.47	3785.90....	Fe-	5 ³	4	600	5.68
3739.75....	Fe-Ni	6	6d	800	6.33	3786.17....	Fe-Ti	4	4	600	6.08
3741.06....	Ti	4	4	500	3.32	3786.68....	Fe	5	4	600	4.27
3741.64....	Ti ⁺	4	30	2000	4.87	3787.11....	Fe-CN	1	2	450	6.88
3742.70....	Fe-Cr	6 ³	4	600	6.22	3787.94....	Fe	9	8	800	4.26
3743.49....	Fe-Cr	12 ⁵	12d	1000	4.28	3788.66....	Y ⁺	2	15	1000	3.36
3744.11....	Fe	4	4	400	6.32	3789.56....	Fe-	4 ²	2	450	5.85
3745.78....	Fe	14 ²	30d	2000	3.38	3790.09....	Fe	5	6	800	4.24
3746.53....	Fe	3 ²	3	400	5.48	3790.42....	V-Cr	4 ³	2	400	4.63
3747.60....	Y ⁺	1	6	600	3.40	3790.78....	La ⁺ -Fe	3 ²	4	800	3.38
3748.25....	{Ti ⁺	1	20	1500	4.88	3791.36....	Cr	1	1	400	6.25
	Fe	10				3792.22....	Fe-Cr	4 ²	4	600	5.97
3749.50....	Fe	20	18	1500	4.20	3792.78....	Fe-CN	4 ²	3	600	5.47
3750.25....	H 12	....	75	6000	13.45	3793.35....	Cr-Fe	2 ²	2	400	6.25
3751.65....	Zr ⁺	1	3	500	4.26	3793.60....	Ni-Fe	6 ²	3	400	3.53
3752.21....	Fe	4 ²	3	500	6.31	3794.31....	Fe-CN	4	3	400	5.70
3752.86....	Ti	4	4	400	3.34	3794.76....	La ⁺	1	6	800	3.50
3753.55....	Fe-Ti	6	5	400	5.45	3795.01....	Fe	8	8	800	4.24
3754.51....	Fe-Cr ⁺	4 ²	4	400	6.27	3796.25....	Zr ⁺ -CN	1 ³	3d	500	4.26
3755.41....	Co	1	2	400	5.36	3798.02....	H 10	....	100	6000	13.40
3756.04....	Fe	3	3	400	5.45	3799.52....	Fe	7	8	800	4.20
3757.16....	Fe-Cr	7 ³	4	400	6.84	3800.06....	CN	2 ⁴	3	400	....
3757.66....	Ti ⁺ -Cr	4	15	1200	4.84	3801.37....	Ce ⁺ -CN	2 ³	2	400	4.14
3758.25....	Fe	15	15	1200	4.24	3801.74....	Fe	5 ²	6	600	6.07
3759.33....	Ti ⁺	12	65	6000	3.89	3802.28....	Fe	2	2	400	6.53
3760.07....	Fe-V ⁺	6 ²	5	600	5.68	3802.71....	CN	1 ²	3	400	....
3760.54....	Fe	4	4	400	5.49	3803.00....	Ce ⁺ -CN	1 ²	4	400	3.60
3761.33....	Ti ⁺	7	75	6000	3.85	3803.42....	V-CN	0	3	400	3.53
3761.88....	Ti ⁺	3	75	6000	5.86	3804.00....	Fe	3	2	400	6.56
3762.35....	Fe-CN	5 ⁴	4	400	6.63	3804.65....	Cr-V	4 ³	4	400	6.24
3763.80....	Fe	10	15d	1200	4.26	3805.32....	Fe	6	4	600	6.53
3764.12....	Fe ⁺ -Ce ⁺	1	4	500	5.85	3806.15....	Fe-CN	3 ²	2	400	6.64
3764.54....	Zr-CN	1 ⁵	3	400	3.28	3806.75....	Fe-Mn	8	3	400	6.50
3765.49....	Fe	6	10	800	6.50	3807.31....	Fe-Ni	12 ²	8d	800	5.45
3766.68....	Zr ⁺ -Fe	4 ²	5	600	3.68	3808.09....	Cr-Fe	4 ⁴	3	500	6.24
3767.15....	Fe	8	12	1200	4.28	3808.85....	Fe-CN	4 ²	6d	600	5.79
3768.21....	Cr-CN	6 ³	6d	600	5.81	3809.51....	Mn-V	4	3	400	5.37
3769.46....	Ni ⁺	3	8	600	6.36	3810.84....	Fe-CN	4 ²	5	500	6.53
3770.72....	H 11	....	80	6000	13.43	3811.40....	Ti-Ni	2 ²	2	400	5.10
3771.66....	Ti	2	2	400	3.32	3812.00....	Fe-CN	3 ³	3	400	4.19
3772.57....	Ni	3 ²	4	400	3.48	3813.10....	Fe	7 ²	10	1000	5.81
3773.76....	Fe-CN	4 ⁵	4d	500	6.30	3813.49....	Ti ⁺ -Fe	4 ²	8	1000	3.84
3774.38....	Y ⁺	3	20	1000	3.40	3814.53....	Ti ⁺ -Fe	7 ²	12	1000	3.81
3774.85....	Fe	4	3	400	5.48	3815.38....	V ⁺ -Cr	2 ²	2	400	6.12
3775.54....	Ni	7	7	800	3.69	3815.82....	Fe	15	20	1500	4.71
3776.02....	Ti ⁺	2	7	800	4.84	3816.33....	Fe-Co	3	2	400	5.42
3776.48....	Y ⁺ -Fe	4 ²	4	600	3.40	3817.65....	Zr ⁺ -Fe	3	4	600	3.76
3777.42....	Fe	3	3	500	5.82	3818.31....	Y ⁺ -V	2 ²	4	600	3.36
3777.98....	Ni-CN	3 ³	3	500	3.29	3819.15....	CN	3 ³	3d	700	....
3778.30....	V ⁺ -Fe	3	4	500	4.94	3819.63....	He	....	15	4000	24.11
3778.70....	Fe-CN	6 ³	3	500	5.45	3820.43....	Fe	25	25	1600	4.09
3779.39....	Fe	4	4	500	5.81	3821.16....	Fe	4	3	500	6.48

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
3821.79....	<i>Fe-CN</i>	5 ²	4d	600	5.83	3864.36....	<i>Fe-CN</i>	4 ²	4	600	5.77
3822.81....	<i>V-CN</i>	1	3	500	3.51	3864.87....	<i>V</i>	3	4	600	3.21
3823.56....	<i>Mn-Cr</i>	4	3	500	5.36	3865.12....	<i>CN</i>	3	4	600	.....
3823.99....	<i>Mn-Fe</i>	2 ²	3d	500	5.38	3865.51....	<i>Fe-Cr⁺</i>	7	8	1000	4.20
3824.46....	<i>Fe</i>	6	20	1500	3.23	3866.00....	<i>CN</i>	3	3	600	.....
3825.32....	<i>CN</i>	1 ²	3	600	.....	3866.79....	<i>CN</i>	2	3	600	.....
3825.86....	<i>Fe</i>	20	20	1500	4.14	3867.20....	<i>Fe</i>	3	3	800	6.20
3826.60....	<i>CN-Fe</i>	4 ³	4d	400	5.67	3867.62....	<i>He-V</i>	1	3	800	24.07
3827.31....	<i>Zr⁺-CN</i>	2 ²	3	600	.....	3867.94....	<i>Fe-CN</i>	2	4	800	5.77
3827.79....	<i>Fe</i>	8	15	1200	4.77	3868.38....	<i>CN-Ti</i>	1	3	600	5.16
3829.35....	<i>Mg</i>	10	40	5000	5.92	3868.75....	<i>CN</i>	1	3	600	.....
3830.68....	<i>Fe-CN</i>	5 ⁴	6	600	5.82	3869.13....	<i>CN</i>	1	3	600	.....
3831.06....	<i>Cr-V⁺</i>	3d	6	600	4.22	3869.51....	<i>Fe-CN</i>	3	4	600	5.91
3832.34....	<i>Mg</i>	15	50	5000	5.92	3869.89....	<i>CN</i>	1	3	600	.....
3832.89....	<i>Ni</i>	3	3	800	3.38	3871.09....	<i>CN</i>	3 ¹	6	800	.....
3833.32....	<i>Fe</i>	4	4	800	5.77	3871.37....	<i>CN</i> ¶	2d	6	800	.....
3833.74....	<i>CN</i>	1 ³	2	500	.....	3871.80....	<i>Fe-La⁺</i>	3 ²	3	600	6.12
3834.26....	<i>Fe-Mn</i>	14 ²	15	1200	4.17	3872.20....	<i>CN</i>	3 ³	3	600	.....
3835.54....	<i>H₉</i>	.....	120	7000	13.37	3872.55....	<i>Fe</i>	6	7	1000	4.17
3836.08....	<i>Ti⁺</i>	2	4	700	3.82	3872.73....	<i>V-CN</i>	1	2	600	4.26
3836.42....	<i>Fe-CN</i>	5 ³	5	800	6.50	3873.05....	<i>Co-Fe</i>	6 ³	4	600	3.62
3836.77....	<i>Zr⁺</i>	1	3	800	3.77	3873.90....	<i>Co-Fe</i>	8 ²	6	600	3.70
3838.30....	<i>Mg</i>	25	60	6000	5.92	3874.75....	<i>CN</i>	3 ²	3	500	.....
3839.65....	<i>Fe-Mn</i>	4 ²	3	600	7.16	3875.19....	<i>Ti-V</i>	4 ²	4	500	3.18
3840.44....	<i>Fe-CN</i>	8	12	1200	4.20	3875.78....	<i>CN</i>	2	2	500	.....
3840.74....	<i>V-La⁺</i>	1	2	600	3.25	3876.05....	<i>Fe</i>	5	6	700	4.19
3841.07....	<i>Fe-Mn</i>	10	12	1200	4.81	3876.35....	<i>CN</i>	2 ³	3	600	.....
3841.88....	<i>Co-CN</i>	6 ⁴	5	600	4.13	3876.92....	<i>CN-Co</i>	8 ²	4	600	3.61
3843.13....	<i>Zr⁺-Fe</i>	10 ⁴	10d	800	3.57	3878.01....	<i>Fe-CN</i>	8	8	1500	4.14
3844.00....	<i>Mn-CN</i>	2	2	500	5.39	3878.65....	<i>Fe-V⁺</i>	11 ³	25	1500	3.27
3844.29....	<i>CN-V</i>	4 ²	3	500	3.21	3879.59....	<i>CN</i>	4 ⁴	3	600	.....
3845.14....	<i>Fe-CN</i>	5 ³	3	600	5.62	3880.19....	<i>CN</i>	3 ⁵	3	600	.....
3845.44....	<i>Co-CN</i>	8	6	600	4.13	3880.68....	<i>CN</i>	1	4	600	.....
3846.26....	<i>Fe-Ti</i>	5 ³	2	500	6.86	3881.25....	<i>CN</i>	5 ⁵	5	600	.....
3846.79....	<i>Fe-CN</i>	8 ⁴	8	700	6.45	3881.91....	<i>CN-Co</i>	2	4	600	3.76
3847.92....	<i>CN</i>	3 ³	2	600	.....	3882.25....	<i>CN</i>	2	6	600	.....
3848.30....	<i>Fe-Ti</i>	2	4	600	5.80	3882.50....	<i>CN</i>	3 ³	10	800	.....
3848.93....	<i>La⁺-Cr</i>	4 ²	5	700	3.21	3883.29....	<i>CN-Cr**</i>	3 ²	10	800	4.16
3849.45....	<i>Cr</i>	2 ²	3	500	4.18	3884.32....	<i>Fe-</i>	3 ²	4	500	5.86
3849.93....	<i>Fe</i>	10	10	1000	4.21	3885.32....	<i>Fe-Cr</i>	8 ³	4d	500	5.59
3850.82....	<i>Fe</i>	4	7	700	4.19	3886.32....	<i>Fe-La⁺</i>	15	25	1500	3.23
3851.22....	<i>CN</i>	2	3	600	.....	3887.02....	<i>Fe</i>	7	6	800	4.09
3851.60....	<i>CN</i>	1 ³	3d	600	.....	3889.20....	<i>H₅</i>	.....	140	8000	13.33
3852.50....	<i>Fe-CN</i>	7 ³	4d	600	5.37	3890.41....	<i>Fe</i>	2	2	400	6.40
3853.39....	<i>Fe-CN</i>	3 ²	3d	600	6.14	3890.85....	<i>Fe</i>	3	4	500	5.89
3854.01....	<i>CN</i>	1 ²	3	600	.....	3891.41....	<i>Zr-Nd⁺</i>	2 ³	5	600	3.32
3854.45....	<i>CN-Fe</i>	4 ²	6	800	6.40	3891.93....	<i>Ba⁺-Fe</i>	5 ²	5d	600	5.67
3854.81....	<i>CN\$</i>	1	4	600	.....	3893.02....	<i>V-Fe</i>	4 ³	2	500	3.21
3855.58....	<i>Cr-Fe</i>	5 ²	4	600	5.90	3893.38....	<i>Fe</i>	4	4	500	6.11
3856.26....	<i>Fe-Si⁺</i>	9 ²	25	1500	3.25	3894.12....	<i>Co-Cr</i>	8 ²	7	800	4.21
3856.84....	<i>CN</i>	3 ²	2d	600	.....	3895.06....	<i>Co-Ti</i>	8 ³	5	600	3.80
3857.70....	<i>Cr-CN</i>	6	4	600	5.90	3895.68....	<i>Fe</i>	7	20	1500	3.28
3858.36....	<i>Ni</i>	7	6	800	3.62	3896.20....	<i>V⁺-V</i>	1 ²	6	800	4.56
3858.72....	<i>CN</i>	2	4	500	.....	3896.70....	<i>Fe-Ce⁺</i>	2 ³	2	500	6.81
3859.87....	<i>Fe</i>	20	40	2500	3.20	3897.75....	<i>Fe-Cr</i>	6 ⁴	5	700	5.85
3860.60....	<i>CN</i>	3	3	600	.....	3898.05....	<i>Fe</i>	5	6	800	4.17
3861.23....	<i>Co-Fe</i>	7 ²	5	600	4.24	3898.40....	<i>Ti-Co</i>	3 ²	3	500	3.17
3861.73....	<i>CN</i> ¶	7 ⁵	5	600	.....	3899.09....	<i>V⁺-Fe</i>	5 ²	5	800	4.96
3862.49....	<i>Si⁺-CN</i>	3 ²	6	300	10.02	3899.70....	<i>Fe</i>	8	18	1500	3.25
3863.42....	<i>Nd⁺-CN</i>	3	5	600	3.19	3900.54....	<i>Ti⁺</i>	5	35	2000	4.29

§ Fourth head of third *CN* band.
 ¶ Third head of third *CN* band.

|| Second head of third *CN* band.
 ** First head of third *CN* band.

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
3901.72....	<i>Nd⁺-V-</i>	5 ²	5d	500	...	3945.97....	<i>Cr</i>	2 ³	1	400	6.13
3902.39....	<i>V-</i>	6 ³	3	500	3.23	3946.90....	<i>Fe-Co</i>	4 ²	3	500	6.32
3902.97....	<i>Fe-Cr</i>	10	8	1000	4.71	3947.66....	<i>Fe-Ti</i>	7 ³	6	600	5.95
3903.19....	<i>V⁺-Cr</i>	3 ²	6	1000	4.63	3948.13....	<i>Fe</i>	5	3	600	6.35
3903.82....	<i>Fe-Ti</i>	7 ²	4	600	6.14	3948.67....	<i>Ti-Fe</i>	8 ²	4	600	3.13
3904.77....	<i>Ti</i>	3	4	500	4.06	3949.07....	<i>La⁺-Ca</i>	1	8	800	3.53
3905.53....	<i>Si</i>	12	12	1000	5.06	3949.96....	<i>Fe</i>	5	5	600	5.29
3905.92....	<i>Nd⁺-Fe</i>	4 ²	3	500	...	3950.33....	<i>Y⁺</i>	2	10	1000	3.23
3906.48....	<i>Fe-V</i>	10	12	1000	3.27	3951.20....	<i>Fe-Nd⁺</i>	5	3	700	6.38
3906.72....	<i>Fe-V</i>	3	6	600	6.45	3951.97....	<i>V⁺</i>	2	6	600	4.59
3906.99....	<i>Eu⁺</i>	2 ²	3	600	3.36	3952.66....	<i>Fe</i>	7 ²	4	600	5.80
3907.45....	<i>Sc-Fe</i>	3	3	600	3.16	3953.03....	<i>Fe-Co</i>	10 ⁴	4	600	6.13
3907.91....	<i>Fe</i>	4	5	600	5.90	3954.53....	<i>Fe</i>	3 ²	1	400	6.37
3908.77....	<i>Cr</i>	4	3	500	4.16	3955.37....	<i>Fe</i>	5	2	400	6.39
3909.65....	<i>Fe</i>	4	3	500	6.43	3956.39....	<i>Ti-Fe</i>	8 ²	5	600	3.14
3909.90....	<i>Fe-Co</i>	8 ²	5	600	5.99	3956.72....	<i>Fe</i>	6	8	600	5.80
3910.68....	<i>Fe-V</i>	6 ²	3	500	5.90	3957.05....	<i>Ca-Fe</i>	7	8	750	5.00
3911.15....	<i>Ti-Nd⁺</i>	0	2	500	5.19	3958.23....	<i>Zr⁺-Ti</i>	5	15	1000	3.64
3911.84....	<i>Sc</i>	2	2	500	3.18	3959.48....	<i>Gd⁺-Fe</i>	0 ²	1d	400	3.84
3912.18....	<i>Ni-Cr</i>	4 ²	4	500	6.93	3960.33....	<i>Fe</i>	4	3	400	6.74
3913.55....	<i>Ti⁺-Fe</i>	9 ²	40	2500	4.26	3961.51....	<i>Al</i>	20	35	2000	3.13
3914.45....	<i>V⁺-Fe⁺</i>	8 ⁵	10d	800	4.94	3962.98....	<i>Fe-Ti</i>	6 ²	6	800	6.38
3915.33....	<i>Fe-Co</i>	2 ²	3	500	5.43	3964.39....	<i>Fe-Ti</i>	5 ²	4	600	5.95
3915.72....	<i>Cr</i>	6 ²	8	800	6.15	3964.72....	<i>He</i>	...	8	1200	23.64
3915.96....	<i>Zr⁺-La⁺</i>	2 ²	6	800	3.68	3966.58....	<i>Fe-Zr</i>	6 ³	4	500	5.86
3916.34....	<i>V⁺-Cr</i>	5 ²	3	600	4.57	3968.70....	<i>Ca⁺</i>	700	180	14000	3.11
3916.74....	<i>Fe</i>	5	3	600	6.37	3970.25....	<i>H_e</i>	5	120	8000	13.26
3917.24....	<i>Fe</i>	5	4	700	4.14	3971.33....	<i>Fe</i>	5	4	400	5.79
3918.34....	<i>Fe</i>	8 ²	7	800	5.62	3971.89....	<i>Eu⁺-Fe</i>	1 ²	3	600	3.31
3918.66....	<i>Fe</i>	5	4	600	6.15	3972.27....	<i>Ni</i>	4 ³	2	400	3.53
3919.12....	<i>Fe-Cr</i>	6 ²	3	600	6.13	3973.60....	<i>V⁺-Ca</i>	6 ³	6	800	4.53
3920.25....	<i>Fe</i>	10	20	1500	3.27	3974.56....	<i>Co-Fe</i>	13 ⁴	6d	600	3.62
3921.11....	<i>Cr</i>	3	4	600	4.13	3975.21....	<i>Fe</i>	3 ²	2	400	5.56
3921.59....	<i>La⁺-Ce⁺</i>	9 ³	4	600	3.38	3976.73....	<i>Fe-Cr</i>	8 ³	5d	500	6.50
3922.46....	<i>Zr⁺-V</i>	3 ³	2	500	5.63	3977.77....	<i>Fe</i>	6	6	700	5.29
3922.92....	<i>Fe</i>	12d	20	1500	3.20	3978.40....	<i>Fe</i>	3 ²	3	500	5.92
3924.09....	<i>Mn-Ni</i>	2 ²	2	400	...	3978.70....	<i>Co-Ce⁺</i>	3	4	500	3.61
3924.53....	<i>Ti</i>	4	3	400	3.17	3979.49....	<i>Co-Fe</i>	7 ²	5d	600	3.20
3925.20....	<i>V-Fe</i>	4	3	500	3.31	3980.97....	<i>Fe-Cr</i>	5 ⁴	4d	500	5.51
3925.61....	<i>Fe</i>	5	4	500	5.96	3981.81....	<i>Ti⁺-Fe</i>	6 ²	10	800	3.67
3925.98....	<i>Fe</i>	7 ²	4	600	5.99	3982.55....	<i>Y⁺-Ti</i>	5 ²	12	1000	3.23
3926.86....	<i>V⁺-Cr</i>	2 ³	3d	600	4.61	3983.17....	<i>Cr-Ce⁺</i>	5 ³	2	500	6.53
3927.96....	<i>Fe</i>	10 ²	20	1500	3.25	3983.90....	<i>Fe-Cr</i>	7 ²	6	600	5.81
3929.16....	<i>Fe-La⁺</i>	4 ²	4	500	5.85	3984.30....	<i>Cr-Mn</i>	4 ²	3	600	5.63
3929.86....	<i>Ti</i>	2	2	500	3.14	3984.64....	<i>Ce⁺</i>	2	2	600	4.05
3930.26....	<i>Fe</i>	8	20	1500	3.23	3985.36....	<i>Fe</i>	4 ²	3	400	6.38
3931.15....	<i>V-Fe</i>	2 ²	2	400	3.21	3986.18....	<i>Fe</i>	3	4	500	6.33
3933.90....	<i>Ca⁺</i>	1000	200	14000	3.14	3986.73....	<i>Mg</i>	6	6	600	7.42
3935.90....	<i>Fe-Co</i>	4 ²	3	500	5.96	3987.15....	<i>Mn-Co</i>	5 ³	4	500	6.22
3937.36....	<i>Fe</i>	3	3	500	5.82	3987.56....	<i>Mn-Ti⁺</i>	3 ²	3	500	6.22
3938.35....	<i>Mg-Fe⁺</i>	6 ²	10	1000	7.46	3988.47....	<i>La⁺</i>	0	8	600	3.50
3939.43....	<i>Sc⁺-Fe⁺</i>	2 ⁴	3	600	3.45	3989.09....	<i>Sc⁺</i>	5 ²	2	500	3.41
3940.17....	<i>Fe-Ce⁺</i>	3 ²	2	500	6.53	3989.77....	<i>Ti-Fe</i>	7 ²	6	600	3.11
3940.87....	<i>Fe-Co</i>	5	4	700	4.09	3990.00....	<i>Cr-Nd⁺</i>	2 ²	4	600	6.97
3941.30....	<i>Fe</i>	3	2	500	6.38	3990.35....	<i>Fe-V</i>	3 ³	2	600	6.13
3941.89....	<i>Co-Ce⁺</i>	6 ⁴	3	600	3.56	3991.16....	<i>Zr⁺-Cr</i>	3	10	800	3.85
3942.43....	<i>Fe</i>	5 ²	4d	600	5.96	3991.65....	<i>Co-Cr</i>	3 ³	4	500	3.67
3943.24....	<i>Fe</i>	7 ³	5	600	5.32	3992.29....	<i>Fe-Ce⁺</i>	3 ²	3	400	6.38
3944.03....	<i>Al</i>	15	25	2000	3.13	3992.86....	<i>Cr-V</i>	2	2	400	5.79
3944.71....	<i>Fe-Dy⁺</i>	3 ²	4	600	5.96	3993.13....	<i>Fe</i>	2	1	400	....
3945.19....	<i>Fe-Fe⁺</i>	6 ²	8	800	5.87	3993.80....	<i>Cr-Ce⁺</i>	2 ³	2	400	5.79

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
3994.15....	<i>Fe</i>	4	4	400	6.12	4031.92....	<i>Fe-Mn</i>	4 ²	3	600	6.32
3994.68....	<i>Co-Nd⁺</i>	4 ²	4	500	3.72	4032.61....	<i>Fe</i>	6 ²	5	700	4.54
3995.31....	<i>Co</i>	5	6	600	4.01	4033.07....	<i>Mn</i>	7	20	1500	3.06
3995.76....	<i>La⁺</i>	1	8	800	3.26	4033.68....	<i>Mn</i>	2	3	500	.....
3996.57....	<i>Sc</i>	1 ³	2	400	3.09	4034.47....	<i>Mn</i>	6	18	1200	3.06
3996.96....	<i>V⁺-Fe</i>	3 ²	5	600	5.46	4035.57....	<i>V⁺</i>	2	5	800	4.84
3997.41....	<i>Fe</i>	6 ²	6	600	5.80	4035.78....	<i>Mn</i>	4	7	800	5.19
3997.97....	<i>Co-Fe</i>	8 ²	6	600	4.13	4036.82....	<i>V⁺</i>	1	2	400	4.53
3998.74....	<i>Zr⁺-Ti</i>	5 ²	10	800	3.64	4037.08....	.....	2	1	400	.....
3999.21....	<i>Ce⁺-Cr⁺</i>	1 ²	10	800	3.38	4037.65....	<i>Fe</i>	1	2	400	5.33
4000.38....	<i>Fe</i>	4 ²	6d	600	6.06	4038.56....	<i>Fe-V⁺</i>	4 ⁴	2	400	6.34
4001.15....	<i>V⁺⁻</i>	3	3	500	6.83	4040.02....	<i>Fe-Y</i>	4 ³	2	400	5.77
4001.65....	<i>Fe</i>	3	4	500	5.25	4040.62....	<i>Fe</i>	3	2	500	6.34
4002.34....	<i>Ti-Fe⁺</i>	3 ⁴	2	400	5.19	4040.82....	<i>Ce⁺-Nd⁺</i>	1	12	800	3.50
4002.91....	<i>V⁺</i>	2	4	500	4.50	4041.38....	<i>Mn-Fe</i>	9 ³	8d	800	5.16
4003.81....	<i>Ti-Fe</i>	3	4	500	5.21	4042.62....	<i>Ce⁺</i>	0	4	700	3.55
4004.95....	<i>Fe</i>	3 ³	4	600	6.09	4042.87....	<i>La⁺-Sm⁺</i>	1	8	700	3.98
4005.28....	<i>Fe</i>	7	10	1000	4.63	4043.98....	<i>Fe</i>	5 ²	4	600	5.77
4005.74....	<i>V⁺</i>	3	7	1000	4.89	4044.64....	<i>Fe</i>	3	3	500	5.87
4006.29....	<i>Fe</i>	2	3	600	6.33	4045.37....	<i>Co</i>	5	3	500	4.10
4006.73....	<i>Fe</i>	5 ²	5	600	5.95	4045.84....	<i>Fe</i>	30	40	2000	4.53
4007.34....	<i>Fe</i>	3	4	600	5.83	4047.34....	<i>Fe</i>	2	2	400	5.32
4008.00....	<i>Ti-V⁺</i>	1 ³	1	400	5.19	4047.89....	<i>Y⁺-Sc</i>	2 ³	3d	600	3.23
4008.84....	<i>Ti-Fe</i>	5 ²	7	600	3.10	4048.65....	<i>Zr⁺</i>	1	4	800	3.85
4009.34....	<i>He</i>	.....	2	1000	24.21	4048.80....	<i>Mn-Cr</i>	5	10	600	5.20
4009.73....	<i>Fe-Ti</i>	5 ²	5	800	5.29	4049.46....	<i>Fe-Gd⁺</i>	4 ³	3d	500	5.62
4010.44....	<i>Fe</i>	4 ²	1	400	5.67	4050.32....	<i>Zr⁺</i>	0	4	500	3.76
4011.19....	<i>Fe</i>	7 ³	4d	500	5.62	4050.91....	<i>V⁺-Fe</i>	3 ³	2	400	4.84
4011.96....	<i>Fe-Nd⁺</i>	4 ³	3	500	5.52	4052.10....	<i>Fe-Cr⁺</i>	5 ²	3	500	6.43
4012.41....	<i>Ti⁺-Ce⁺</i>	4	25	1500	3.65	4052.48....	<i>Fe-Mn</i>	7 ³	3	500	6.31
4013.62....	<i>Ti-Fe</i>	3	3	600	5.20	4053.32....	<i>Cr⁺</i>	3 ²	4	600	6.14
4013.86....	<i>Fe</i>	5	4	600	6.08	4053.84....	<i>Ti⁺</i>	2	8	1000	4.93
4014.53....	<i>Sc⁺-Fe</i>	5	10	800	3.39	4054.83....	<i>Fe</i>	5 ²	5	500	6.26
4014.94....	<i>Ce⁺</i>	0	2	500	3.60	4055.08....	<i>Ti-Fe</i>	3	3	500	4.09
4015.55....	<i>Ni-Ti</i>	4 ³	4	500	7.09	4055.60....	<i>Mn</i>	6	5	500	5.18
4016.46....	<i>Fe</i>	2	2	400	6.43	4056.16....	<i>Ti⁺-Cr</i>	1 ²	3	500	3.65
4017.19....	<i>Fe</i>	7 ²	6	500	6.11	4056.55....	<i>Fe-Sr⁺</i>	1 ²	2	400	5.90
4017.60....	<i>Ti-Ni</i>	4 ³	3	500	5.15	4057.20....	<i>Fe-Co</i>	7 ³	5	400	5.79
4018.28....	<i>Mn-Fe</i>	10 ³	7	500	5.18	4057.49....	<i>Mg</i>	7	5	800	7.37
4019.04....	<i>Ni-Ce⁺</i>	1	3	500	5.00	4058.18....	<i>Co-Fe</i>	4	3	400	3.55
4019.32....	<i>Co</i>	0	1	400	3.65	4058.93....	<i>Fe-Mn</i>	6 ²	6d	600	5.45
4020.08....	<i>Fe</i>	4 ³	3	400	6.32	4059.43....	<i>Mn-</i>	2 ³	1	400	6.10
4020.44....	<i>Sc-Fe</i>	2 ²	4	500	3.07	4059.74....	<i>Fe</i>	2	2	400	6.57
4020.88....	<i>Co</i>	3	3	500	3.50	4060.32....	<i>Ti</i>	1	1	400	4.09
4021.50....	<i>Fe-Nd⁺</i>	3 ³	4	600	5.48	4061.06....	<i>Nd⁺</i>	3	8	800	3.51
4021.91....	<i>Fe</i>	5	6	700	5.82	4061.90....	<i>Mn-</i>	4 ²	2	400	6.10
4023.42....	<i>V⁺</i>	3	6	800	4.86	4062.50....	<i>Fe</i>	5	6	600	5.87
4023.66....	<i>Sc</i>	2	6	800	3.09	4063.26....	<i>Fe</i>	4	3	600	6.24
4024.06....	<i>Zr-Fe</i>	3 ²	2	500	3.75	4063.62....	<i>Fe</i>	20	25	1800	4.59
4024.61....	<i>Fe-Ti</i>	7 ²	8	800	6.29	4064.30....	<i>Ti⁺-Fe</i>	5 ⁴	3	500	5.62
4025.14....	<i>Ti⁺</i>	3	10	800	3.67	4065.15....	<i>Ti-V⁺</i>	2	1	400	4.08
4026.28....	<i>He</i>	.....	35	6000	23.94	4065.45....	<i>Fe</i>	3	3	500	6.29
4026.52....	<i>Ti-Mn</i>	3 ²	3	500	5.17	4066.50....	<i>Co-Fe</i>	4 ²	3	500	3.95
4027.26....	<i>Zr-V⁺</i>	1 ²	2	400	3.68	4067.07....	<i>Fe</i>	8 ²	8	700	5.85
4027.95....	.....	0	2	600	.....	4067.43....	<i>La⁺</i>	—	2	1	500
4028.36....	<i>Ti⁺</i>	4	15	1000	4.95	4068.00....	<i>Fe</i>	6	4	500	6.23
4029.60....	<i>Zr⁺-Fe</i>	5	6	600	3.77	4068.63....	<i>Co-Ce⁺</i>	1 ²	3	450	4.98
4030.48....	<i>Fe-Ti</i>	5	5	600	6.26	4069.20....	<i>Ti-Nd⁺</i>	3 ²	4	450	5.78
4030.79....	<i>Mn</i>	9	25	1500	3.06	4070.30....	<i>Mn</i>	3	3	400	5.21
4031.26....	<i>Fe-Ce⁺</i>	2 ²	4	500	6.27	4070.90....	<i>Fe-Cr⁺</i>	5 ²	4	400	6.26
4031.69....	<i>La⁺</i>	2	8	600	3.38	4071.75....	<i>Fe</i>	15	25	1500	4.63

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
4072.36....	<i>Fe-Ce⁺</i>	3 ³	2	400	6.28	4114.58....	<i>Fe</i>	6 ²	4	500	5.82
4073.35....	<i>Ce⁺</i>	1 ²	3	500	3.03	4115.20....	<i>V</i>	3	4	600	3.28
4073.75....	<i>Fe</i>	4	5	500	6.28	4115.99....	<i>Ni</i>	3	2	400	7.13
4074.79....	<i>Fe</i>	5 ²	5	500	6.06	4116.63....	<i>V-</i>	3 ³	3	500	3.27
4075.18....	<i>Nd⁺⁻</i>	3 ³	2d	500	3.09	4117.87....	<i>Fe-Ce⁺</i>	2	2	400	6.40
4076.07....	<i>Cr-Fe⁺</i>	4 ²	4	500	5.72	4118.15....	<i>Fe-Ce⁺</i>	0	3	500	3.21
4076.66....	<i>Fe</i>	8 ³	5	500	6.22	4118.70....	<i>Fe-Co</i>	11 ³	12	800	6.25
4077.35....	<i>La^{+-Y}</i>	1	3	800	3.26	4119.38....	<i>Fe</i>	1 ²	1	400	.....
4077.83....	<i>Sr⁺</i>	8	80	6000	3.03	4119.78....	<i>Ce^{+-Fe}</i>	2 ³	3	400	3.60
4078.47....	<i>Fe-Ti</i>	7 ²	5	500	5.62	4120.30....	<i>Fe</i>	4	3	400	5.97
4079.16....	<i>Mn-Fe</i>	5 ²	4	500	5.16	4120.78....	<i>He</i>	.....	4	2500	23.87
4079.45....	<i>Mn</i>	3	4	500	5.20	4121.31....	<i>Co</i>	6	5	600	3.91
4079.88....	<i>Fe</i>	3	3	500	5.87	4121.87....	<i>Fe-Cr</i>	4 ²	3d	600	5.81
4080.30....	<i>Fe</i>	3	4	500	6.29	4122.60....	<i>Fe^{+-Fe}</i>	4 ²	6d	600	5.57
4081.22....	<i>Zr-Ce⁺</i>	2 ²	4	500	3.75	4123.30....	<i>La⁺</i>	1	7	800	3.31
4082.23....	<i>Fe</i>	3 ²	2	400	6.26	4123.47....	<i>V</i>	2 ²	2	500	3.26
4082.44....	<i>Sc-Ti</i>	3	2	400	3.04	4123.78....	<i>Fe</i>	4	4	800	5.59
4083.00....	<i>Mn</i>	4	4	500	5.19	4124.81....	<i>Y^{+-Fe⁺}</i>	1 ²	5d	800	3.40
4083.58....	<i>Mn-Fe</i>	6 ²	6	500	5.18	4125.78....	<i>Fe</i>	7 ³	4	500	5.82
4083.82....	<i>Fe-Y</i>	3	2	400	6.42	4126.20....	<i>Fe</i>	4	3	400	6.31
4084.50....	<i>Fe</i>	5	4	400	6.22	4126.51....	<i>Cr</i>	2	2	400	5.52
4085.02....	<i>Fe</i>	4	3	400	5.85	4127.71....	<i>Fe</i>	8 ²	8	800	5.84
4085.30....	<i>Fe-Ce⁺</i>	5 ²	4	500	6.25	4128.10....	<i>V-Mn⁺</i>	6	6	800	3.26
4086.30....	<i>Co-Cr⁺</i>	4 ²	3	400	4.89	4128.76....	<i>Fe⁺</i>	2	2	500	5.56
4086.66....	<i>La⁺</i>	1	10	800	3.02	4129.26....	<i>Cr-Fe</i>	5 ²	2	500	5.89
4087.08....	<i>Fe</i>	3	3	500	6.34	4129.73....	<i>Eu⁺</i>	1	10	800	2.99
4087.28....	<i>Fe⁺</i>	-1	3	500	5.59	4130.68....	<i>Ba⁺</i>	2	4	500	5.20
4088.57....	<i>Fe</i>	3	3	400	6.64	4131.31....	<i>Cr</i>	0 ²	2	400	6.82
4089.23....	<i>Fe</i>	3	3	400	5.95	4131.91....	<i>V-Fe</i>	2	2	500	3.27
4090.55....	<i>Zr^{+-V}</i>	2 ²	3	600	3.77	4132.13....	<i>Fe</i>	10	12	900	4.59
4090.97....	<i>Fe-Ce⁺</i>	3	4	600	6.37	4132.91....	<i>Fe</i>	4	4	500	5.82
4091.54....	<i>Fe</i>	3	3	500	5.84	4133.78....	<i>Fe-Ce⁺</i>	5 ²	4d	500	6.22
4092.39....	<i>Fe-Co</i>	6 ³	7	500	3.93	4134.36....	<i>Fe-V</i>	6 ²	6	500	2.99
4092.62....	<i>V-Ca⁺⁺</i>	3	2	500	3.30	4134.69....	<i>Fe</i>	5	6	500	5.80
4094.36....	<i>Gd⁺⁻</i>	2	1	400	3.53	4135.41....	<i>Nd⁺⁻</i>	1 ²	3	500	.....
4094.90....	<i>Ca</i>	4	3	400	5.53	4135.84....	<i>Zr</i>	1 ²	2	400	3.61
4095.37....	<i>V-Fe</i>	2 ³	2	400	4.07	4136.54....	<i>Fe</i>	3	3	500	6.34
4096.02....	<i>Fe</i>	5 ²	5	500	5.59	4137.06....	<i>Fe</i>	4	5	500	6.38
4097.06....	<i>Fe</i>	2	4	400	6.28	4137.64....	<i>Ce⁺</i>	1	5	500	3.02
4098.18....	<i>Fe-Cr</i>	5	5	600	6.24	4138.06....	<i>Fe</i>	1 ²	1d	400	5.80
4098.56....	<i>Ca-Gr⁺</i>	6 ²	5	600	5.53	4139.89....	<i>Fe</i>	4	3	400	3.97
4098.83....	<i>Gd⁺</i>	-2	1	400	3.83	4140.36....	<i>Fe</i>	3	1	400	6.36
4099.83....	<i>V</i>	2	4	500	3.28	4141.66....	<i>La⁺</i>	0	1	400	3.38
4101.85....	<i>H_{<}</i>	40	140	8000	13.16	4141.88....	<i>Fe</i>	3	2	400	5.98
4102.95....	<i>Si</i>	5	4	500	4.91	4142.41....	<i>Cr-Ti</i>	8 ⁴	2	400	6.09
4103.50....	<i>Fe-Dy⁺</i>	1 ²	2	400	6.24	4143.11....	<i>Ti</i>	1 ³	2	400	5.27
4104.12....	<i>Fe</i>	5	5	600	6.26	4143.90....	{He}	.....	4	2000	24.11
4105.06....	<i>V-Fe</i>	3 ²	6d	600	3.27	4144.90....	{Fe}	15	10	2000	4.53
4106.24....	<i>Fe</i>	2	3	500	5.58	4144.48....	<i>Ce⁺</i>	0	1	450	2.98
4106.44....	<i>Fe</i>	2	3	500	6.39	4144.98....	<i>Ce⁺</i>	0	2	450	3.20
4107.49....	<i>Fe</i>	5	6	600	5.82	4145.22....	<i>Fe</i>	1	1	400	5.66
4108.54....	<i>Ca</i>	2	2	400	5.70	4146.08....	<i>Fe</i>	3	4	400	5.95
4109.21....	<i>Fe-Nd⁺</i>	4 ²	5	600	6.28	4146.46....	<i>Cr</i>	3 ⁴	3	400	5.93
4109.73....	<i>V-Fe</i>	5 ²	6	600	3.26	4147.40....	<i>Fe-Mn</i>	3 ²	3	400	6.29
4110.49....	<i>Co</i>	4	4	500	4.05	4147.69....	<i>Fe</i>	4	3	400	4.45
4111.42....	<i>Cr</i>	1	2	500	5.89	4148.83....	<i>V</i>	0	1	400	3.24
4111.82....	<i>V</i>	4	5	500	3.30	4149.24....	{Zr ⁺ }	2	15d	900	3.77
4112.30....	<i>Fe</i>	2	2	400	6.38	4149.88....	{Fe}	4	1	450	6.29
4112.74....	<i>Ti</i>	1	1	400	3.05	4149.88....	<i>Fe-Ce⁺</i>	3 ²	3	600	3.03
4113.09....	<i>Fe-Mn</i>	4 ²	3	400	7.16	4150.25....	<i>Fe</i>	3	2	400	6.39
4113.85....	<i>Nd^{+-Mn}</i>	-1	4d	500	3.18	4150.53....	<i>Ti-Co</i>	2 ²	2	400	5.26

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
4151.03....	Zr ⁺ -Ti	1	4	600	3.77	4189.52....	Fe-CN	2	2	400	6.62
4151.91....	La ^{+-Ce⁺}	2	4	500	3.21	4190.06....	Cr-	1 ²	1	400	5.80
4152.18....	Fe-	4 ²	4	500	3.93	4191.48....	Fe	9 ²	10d	1200	5.40
5152.53....	CN††	1 ³	2	400	.....	4192.54....	Fe-CN	3 ³	1	400	.....
4153.36....	Fe	1	1	400	.....	4192.95....	Ce ^{+-CN}	0 ²	2	400	3.68
4153.94....	Fe-Cr	7 ³	3d	500	6.35	4193.42....	CN	1 ³	2	400	.....
4154.51....	Fe	4	4	500	5.79	4194.44....	Fe-CN	1 ⁴	1	400	5.66
4154.85....	Fe	4	4	500	6.32	4194.96....	Cr-CN	2 ²	3d	500	6.78
4156.15....	Zr ^{+-Nd⁺}	5 ⁴	12	500	3.68	4195.50....	Fe-Ni	8 ³	4d	500	6.26
4156.85....	Fe	4	5	500	5.79	4196.59....	La ^{+-Fe}	2	8	600	3.26
4157.85....	Fe	5	5	400	6.37	4197.11....	CN¶¶	2	4	500	.....
4158.05....	CN‡‡	— 1	2	400	.....	4198.14....	Fe-	3 ²	1	500	.....
4158.85....	Fe	4	3	400	6.38	4198.28....	Fe	8 ²	9	1000	5.33
4159.25....	.....	4	2	400	.....	4198.69....	Fe-V	3	2	600	6.34
4160.42....	Fe	3 ²	1d	400	5.90	4199.09....	Fe	5	10	1200	5.97
4161.08....	Zr ^{+-Fe}	4 ²	6	900	3.68	4199.94....	Fe-	3 ²	2d	600	3.03
4161.50....	Ti ^{+-Fe}	4	6	900	4.05	4200.53....	Ni-CN	2 ²	3	600	6.23
4161.80....	Sr ⁺	1	2	800	5.89	4200.85....	Fe-Ti	4 ²	3	600	6.32
4162.64....	CN-	2 ²	2d	600	.....	4201.65....	Fe-Ni	1	1	400	6.50
4163.66....	Ti ^{+-Cr}	4	15	1000	5.54	4202.11....	Fe	8	12	1200	4.42
4164.30....	V ^{+-CN}	2 ⁴	3d	500	4.99	4202.43....	V ^{+-CN}	1 ²	2	400	4.63
4165.33....	Fe-CN	4 ²	3	500	.....	4203.00....	Ce ^{+-Fe}	4 ³	5	600	3.49
4165.58....	Ce ⁺	1	3	500	3.39	4203.59....	Cr-Fe	2	2	400	5.47
4166.01....	Ba ⁺	0	2	500	5.67	4203.98....	Fe	7 ²	5	800	5.77
4166.85....	CN	0	2	500	.....	4204.68....	Y ^{+-CH}	3 ²	6	800	2.94
4167.24....	Mg	8	6	800	7.29	4205.06....	V ^{+-Eu⁺}	2 ²	6	800	4.96
4167.66....	Y-CN§§	2 ²	4	600	3.03	4205.54....	Fe-Fe ⁺	2	3	500	6.34
4167.94....	Fe	4 ²	4	500	6.25	4206.69....	Fe	4 ²	4d	600	2.99
4168.76....	Fe-Fe ⁺	4 ²	2	400	6.31	4207.08....	Fe	3	3	500	5.75
4169.05....	He	.....	1	1000	24.09	4207.44....	Cr ^{+-CN}	1	1	400	6.74
4169.37....	Ti-Sm ⁺	0 ²	2	400	4.84	4208.59....	Fe	3	2	600	6.31
4169.81....	Fe	2	2	400	6.34	4208.95....	Zr ⁺	1	7	1000	3.64
4170.87....	Fe	4	3	500	5.96	4209.71....	V-Cr	3 ⁴	2	500	3.23
4171.10....	Ti ⁻	4	3	500	5.10	4210.37....	Fe	7 ²	6d	800	5.40
4171.95....	Ti ⁺	2	18	1200	5.54	4211.00....	CH	3	2d	500	.....
4172.16....	Fe	2	2	500	6.20	4211.89....	Zr ⁺	2	6	800	3.45
4172.68....	Fe-Cr ⁺	6 ²	3d	600	3.91	4212.73....	CN	4 ²	2	500	.....
4173.48....	Fe ^{+-Ti⁺}	8 ³	20	1200	5.53	4213.65....	Fe-CH	3	5d	600	5.76
4173.95....	Fe-Ti ⁺	4 ²	2d	500	3.94	4215.70....	Sr ^{+-CN}	5	60	6000	2.93
4174.89....	Fe-Cr	5 ²	4	600	3.87	4216.16....	Fe-	.....	.....	.....	.....
4175.64....	Fe	5	6	500	5.79	4217.15....	CN***	4 ²	4	800	2.93
4176.58....	Fe	4	3	400	6.31	4217.54....	Gd ^{+-CH}	2 ²	4	600	3.59
4177.34....	Ti-Nd ⁺	0	1	500	4.83	4218.36....	Fe-La ⁺	5	5	600	6.34
4177.54....	Y ^{+-Fe}	6 ²	25	1200	3.36	4218.68....	CH	1	1	400	.....
4178.87....	Fe ⁺	3	20	1200	5.52	4218.99....	.....	3	2	400	.....
4179.42....	Cr ^{+-V}	3	8	600	6.76	4219.40....	Fe	7 ²	6	600	5.90
4180.36....	Fe-CN	1	2	400	5.67	4220.32....	Fe	3	4	500	5.98
4180.82....	CN|||	2	4	500	.....	4220.62....	Sm ⁺	— 1	3	500	3.11
4181.81....	Fe-	8 ³	8d	800	5.77	4221.16....	.....	0	1d	400	.....
4182.36....	Fe	3	3	600	5.96	4222.22....	Fe	5	6	800	5.36
4182.74....	Fe	2	1	400	6.35	4222.70....	Ce ^{+-Cr}	1 ²	4	800	3.04
4183.38....	V ^{+-Zr}	3 ²	3d	400	4.99	4223.18....	Pr ⁺	2 ²	2	500	2.98
4184.19....	Ti ^{+-Gd⁺}	6 ²	6d	600	4.02	4223.49....	CH-	2 ²	1	400	.....
4184.89....	Fe-Cr	4	5	600	5.77	4224.19....	Fe	4	3	500	6.28
4186.56....	Ce ⁺	2	3	600	3.33	4224.65....	Fe-CH	5 ²	3	500	6.34
4187.08....	Fe	6	9	1200	5.39	4225.30....	Fe-V ⁺	4 ³	6	600	6.32
4187.77....	Fe	10 ⁴	9	1200	5.36	4226.74....	Ca	20	40	4000	2.92
4188.73....	Ti	4	2	400	5.18	4227.50....	Fe	4	4	600	6.24
4189.08....	CN	2 ²	2	400	.....	4227.72....	Ca ^{+-Zr}	1 ²	3	400	3.14

†† Sixth head of second CN band.

||| Third head of second CN band.

‡‡ Fifth head of second CN band.

¶¶ Second head of second CN band.

§§ Fourth head of second CN band.

*** First head of second CN band.

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
4228.68....	<i>Fe</i>	1	1	350	6.27	4268.67....	<i>Fe-V</i>	3 ²	4d	500	6.18
4229.71....	<i>Fe-CH</i>	6 ³	5d	500	4.40	4269.52....	<i>La⁺</i>	0	1	400	4.67
4231.03....	<i>Ni-CH</i>	4	3	400	6.44	4269.70....	<i>CH-</i>	2	2	400	....
4231.70....	<i>Zr⁺-Fe</i>	2 ²	2	400	4.66	4270.19....	<i>Ti-Ce⁺</i>	1	1	400	5.20
4232.60....	<i>Fe-Nd⁺</i>	3 ²	2	400	2.99	4271.16....	<i>Fe</i>	6	10	1000	5.33
4233.22....	<i>Fe⁺</i>	4	30	2200	5.49	4271.77....	<i>Fe</i>	15	20	2000	4.37
4233.66....	<i>Fe</i>	6	3	600	5.39	4272.77....	<i>Cr-</i>	2 ²	1	400	5.78
4234.19....	<i>V⁺</i>	0	1	400	4.59	4273.36....	<i>Fe^{+-Zr⁺}</i>	5 ²	10	800	5.58
4235.21....	<i>Mn</i>	5 ²	6	600	5.79	4273.99....	<i>Fe-CH</i>	4 ³	2	400	5.95
4235.92....	<i>Fe-Y⁺</i>	10 ³	15d	1200	5.33	4274.77....	<i>Cr-Ti</i>	9 ²	30	2000	2.89
4236.95....	<i>V^{+-CH}</i>	3 ³	2	400	4.59	4275.55....	<i>La^{+-Cr⁺}</i>	1 ²	5	500	3.21
4237.21....	<i>Fe-</i>	4 ²	3	500	3.87	4276.64....	<i>Fe-Ti</i>	2	2	400	6.75
4237.99....	<i>Fe</i>	4	3	500	6.31	4276.99....	<i>V</i>	1	1	400	4.23
4238.39....	<i>La⁺</i>	1	2	500	3.31	4277.46....	<i>Fe-Zr⁺</i>	3 ²	3	400	5.48
4238.86....	<i>Fe</i>	5	4	500	6.29	4278.20....	<i>Fe^{+-Ti}</i>	4 ²	4d	500	5.77
4239.30....	<i>Zr-Fe</i>	2	1	400	3.60	4278.76....	<i>Ti-</i>	2 ²	2	400	5.18
4239.88....	<i>Fe-Mn</i>	7 ³	7	600	3.86	4279.65....	<i>CH-Fe</i>	4 ²	4	500	6.75
4240.40....	<i>Fe-Ca</i>	3 ²	1	400	6.44	4279.98....	<i>Sc^{+-CH}</i>	3 ³	3	500	3.48
4240.68....	<i>Cr</i>	1	1	400	5.88	4280.41....	<i>Cr</i>	1	2	400	6.72
4241.10....	<i>Fe-Pr⁺</i>	2	2	500	5.73	4280.72....	<i>Sm^{+-CH}</i>	2 ⁴	2	500	3.37
4242.24....	<i>Er⁺</i>	1 ²	2	500	....	4281.07....	<i>Mn</i>	2	3	500	5.79
4242.45....	<i>Cr^{+-Fe}</i>	4 ²	6	1000	6.76	4281.94....	<i>CH</i>	2	1	400	....
4242.75....	<i>Fe</i>	2	2	400	6.20	4282.46....	<i>Fe</i>	5	10	1000	5.05
4243.38....	<i>Fe-CH</i>	5 ³	4d	500	6.53	4282.96....	<i>Ca</i>	4	8	800	4.76
4243.87....	<i>Fe</i>	2	2	400	6.77	4284.14....	<i>Cr^{+-V}</i>	3 ²	5d	600	6.72
4244.66....	<i>Sm^{+-Ni⁺}</i>	1	1	400	3.18	4284.81....	<i>Ti-Ni</i>	4 ³	3	400	4.61
4245.28....	<i>Fe</i>	6 ²	6	500	5.75	4285.43....	<i>Fe-Ce⁺</i>	5 ³	3	400	6.10
4246.06....	<i>Fe</i>	2	2	400	6.17	4285.98....	<i>Ti-Co</i>	3 ²	3	400	3.70
4246.90....	<i>Sc⁺</i>	5	50	5000	3.22	4286.43....	<i>Fe-CH</i>	3	2	400	5.82
4247.41....	<i>Fe</i>	4	4	500	6.26	4286.99....	<i>La^{+-Fe}</i>	2	2	400	4.82
4248.26....	<i>Fe</i>	2	4	500	5.96	4287.40....	<i>Ti</i>	1	1	400	3.71
4248.68....	<i>Ce^{+-CH}</i>	2	4	500	3.11	4287.96....	<i>Ti^{+-Ni}</i>	4 ³	8	1200	3.95
4249.52....	<i>CH</i>	3 ²	2	400	....	4289.09....	<i>Ti-Fe</i>	3 ²	2d	500	3.69
4250.16....	<i>Fe</i>	8	10	1200	5.36	4289.60....	<i>Ca</i>	4	25	2000	4.75
4250.85....	<i>Fe-</i>	9 ²	12	1200	4.45	4290.18....	<i>Cr</i>	5	25	2000	2.88
4251.69....	<i>Ti-Gd⁺</i>	1 ²	3	500	4.77	4290.95....	<i>Ti⁺</i>	2	25	2000	4.04
4252.46....	<i>Cr⁺</i>	2 ³	4d	500	6.74	4290.95....	<i>Ti-Fe</i>	4 ²	4	500	3.69
4252.96....	<i>Mn⁺⁻</i>	3 ³	1	400	8.26	4291.32....	<i>Ti-Fe⁺</i>	5 ³	3	500	3.71
4253.39....	<i>Ce^{+-Gd⁺}</i>	0 ²	1	400	3.36	4292.09....	<i>Fe-CH</i>	6 ⁴	5d	500	5.04
4254.36....	<i>Cr</i>	8	35	2000	2.90	4293.03....	<i>Zr^{+-CH}</i>	5 ²	5d	500	4.61
4255.02....	<i>Fe-CH</i>	2	2	400	5.91	4294.07....	<i>Ti^{+-Fe}</i>	7 ²	30	2500	3.95
4255.50....	<i>Fe-Cr⁺</i>	3 ³	3	500	5.90	4294.80....	<i>Sc⁺</i>	2	4	500	3.48
4255.89....	<i>Ce^{+-CH}</i>	2	4	500	3.60	4295.09....	<i>CH</i>	4	4	500	....
4256.44....	<i>Sm⁺</i>	1 ²	1	500	3.28	4295.91....	<i>Ti-La⁺</i>	4 ³	5d	500	3.68
4257.65....	<i>Mn</i>	2	2	500	5.84	4296.67....	<i>Fe^{+-Zr⁺}</i>	4 ³	12	1000	5.57
4258.23....	<i>Fe^{+-Fe}</i>	4 ³	8d	800	5.59	4297.09....	<i>CH-Cr</i>	7 ⁴	2d	400	5.57
4258.58....	<i>Fe-CH</i>	4 ³	2	400	5.72	4298.10....	<i>Fe-CH</i>	4 ²	4d	800	5.91
4259.07....	<i>Fe-V</i>	4 ⁴	3d	400	5.90	4298.72....	<i>Ti-Ni</i>	4 ²	2	500	3.69
4260.11....	<i>Fe</i>	5 ²	3	500	5.96	4299.02....	<i>Ca</i>	3	8	800	4.75
4260.51....	<i>Fe</i>	10	20	1500	5.29	4299.27....	<i>Fe-Ti</i>	4	4	800	5.29
4261.42....	<i>CH</i>	4 ²	3	600	....	4299.60....	<i>Ti</i>	2	2	500	3.69
4261.82....	<i>Cr^{+-CH}</i>	4 ³	5	1000	6.74	4300.05....	<i>Ti⁺</i>	3	35	2500	4.05
4263.19....	<i>Ti-Cr</i>	2	2	400	4.77	4300.61....	<i>Ti-CH</i>	2	2	500	3.69
4263.62....	<i>La⁺</i>	0	1	400	4.84	4301.08....	<i>Ti-CH</i>	6 ²	4d	600	3.70
4264.32....	<i>Fe-</i>	4 ²	3d	500	6.25	4301.60....	<i>CH-</i>	1 ²	0	400	....
4264.76....	<i>Fe</i>	2	2	400	6.84	4301.94....	<i>Ti⁺</i>	3	12	1200	4.02
4265.21....	<i>Fe-Ti</i>	2	1	400	6.81	4302.59....	<i>Ca-CH</i>	8 ³	8	1200	4.76
4265.94....	<i>Mn</i>	2	1	400	5.82	4303.20....	<i>Fe⁺</i>	2	10	1200	5.56
4266.82....	<i>Fe-Cr</i>	4 ³	2	500	5.61	4303.56....	<i>Nd⁺</i>	2 ²	4	600	2.87
4267.40....	<i>CH</i>	2	2	500	....	4303.95....	<i>CH-</i>	6 ²	2	400	....
4267.76....	<i>Fe-CH</i>	4 ²	3	500	5.99	4304.49....	<i>CH-Fe</i>	3 ²	2d	400	5.80

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	
4305.46....	<i>Sr⁺-Fe</i>	3	4	1000	5.89	4358.74....	<i>V⁺</i>	0	10	800	2.94	
4305.82....	<i>Ti-Sc⁺</i>	7 ³	6	1000	3.71	4359.65....	<i>Zr⁺-Cr</i>	4 ²	10d	800	4.06	
4306.73....	<i>CH-Ce⁺</i>	2	3	500	2.90	4360.37....	<i>Ti-CH</i>	2 ²	1	400	5.00	
4307.39....	<i>CH</i>	4 ²	1	500	.....	4360.86....	<i>Fe-Zr</i>	1	2	400	6.46
4307.86....	{ <i>Ca</i>	3	35	2500	4.74	4361.99....	<i>Ni⁺-Sm⁺</i>	1 ²	2	400	6.84	
4308.89....	<i>Ti⁺-Fe</i>	6	5 ³	1	500	6.48	4362.56....	1	1	400
4309.35....	<i>Fe-CH</i>	3	2	500	5.80	4363.18....	<i>Cr-CH</i>	1	2d	500	5.78	
4309.62....	<i>Y⁺-CH</i>	1	10	800	3.04	4364.19....	<i>Y⁺</i>	1	3	500	6.78	
4310.21....	<i>CH</i>	5 ³	1	400	.....	4364.66....	<i>Ce⁺-La⁺</i>	—	1	3	500
4310.76....	<i>V⁺-Ce⁺</i>	3 ³	2	400	4.80	4365.84....	<i>Fe</i>	2	1	400	5.80	
4311.12....	<i>CH</i>	3 ²	2	400	.....	4366.56....	<i>CH</i>	2 ²	4	400	.....
4311.56....	<i>CH-Ti</i>	6 ³	2	400	5.01	4367.54....	<i>Fe</i>	5	5	800	5.80	
4312.12....	<i>CH</i>	5 ³	2	400	.....	4367.73....	<i>Ti⁺</i>	2	6	800	5.40
4312.82....	<i>Ti⁺</i>	3	18	1500	4.04	4368.49....	<i>Fe-V</i>	3 ²	2	400	4.43	
4314.08....	<i>Sc⁺</i>	3	18	1500	3.48	4369.39....	<i>Ni-Nd⁺</i>	1 ²	1d	400	6.23	
4314.97....	<i>Ti⁺-Fe</i>	8 ³	18	1500	4.02	4369.72....	<i>Fe⁺</i>	1	5	600	5.59	
4315.96....	<i>La⁺-Gd⁺</i>	—	1	2	400	4371.01....	<i>Fe-Ti</i>	5 ²	6	600	5.86	
4316.75....	<i>Ti⁺</i>	1	4	600	4.90	4371.28....	<i>Zr⁺</i>	1	5	600	4.03	
4317.20....	<i>Zr⁺</i>	1 ²	2	500	3.57	4371.58....	<i>Cr</i>	2	4	600	3.82	
4318.73....	<i>Ca-Ti</i>	4	9d	1000	4.75	4372.26....	<i>Ti-Fe⁺</i>	0	1	400	5.30	
4319.55....	<i>Cr-Fe</i>	1 ²	1d	400	5.73	4372.80....	<i>CH</i>	1 ²	1	400	.....
4320.77....	<i>Sc⁺-Ti⁺</i>	5 ²	25	2000	3.46	4373.57....	<i>Fe</i>	2	1d	400	5.37	
4321.60....	<i>Ti</i>	0	2	500	5.08	4374.49....	<i>Sc⁺-Fe</i>	3	15	1500	3.44	
4322.42....	<i>La⁺</i>	1 ²	2	500	3.03	4375.00....	<i>Y⁺</i>	2	20	1500	3.23	
4323.20....	<i>Sm⁺-CH</i>	2	4d	500	2.96	4376.00....	<i>Fe</i>	6	15	1200	2.82	
4323.73....	<i>CH-</i>	4 ²	2	400	.....	4376.81....	<i>Fe-Cr</i>	1	1d	400	5.82
4325.02....	<i>Sc⁺</i>	4	12	1500	3.45	4377.24....	<i>CH</i>	2	2	400	.....
4325.79....	<i>Fe-Ni</i>	10 ³	20	2000	4.45	4377.81....	<i>Fe</i>	1	1	400	6.08	
4326.75....	<i>Fe</i>	2	2	400	5.79	4378.26....	<i>CH</i>	2	2	400	.....
4327.05....	<i>Fe</i>	3	4	500	6.38	4379.25....	<i>V</i>	4	4	600	3.12	
4327.87....	<i>Fe</i>	2	3	500	6.14	4379.76....	<i>Zr⁺-Cr</i>	0	4	500	4.34	
4328.94....	<i>Sm⁺-Fe</i>	1 ³	4d	600	3.03	4380.71....	<i>CH</i>	2	3	400	.....
4330.09....	<i>Ti⁺-V</i>	2 ²	5	800	4.89	4381.19....	<i>Cr-Mn</i>	1 ²	1d	400	5.51	
4330.66....	<i>Ti⁺</i>	2	8	800	4.02	4382.16....	<i>Ce⁺</i>	—	1	3d	400	
4331.66....	<i>Ni</i>	2	4	500	4.52	4382.90....	<i>Fe-CH</i>	3 ²	2	400	6.37	
4332.80....	<i>V-Cr</i>	2 ³	4d	500	2.87	4383.54....	<i>Fe</i>	15	30	2000	4.29	
4333.72....	<i>La⁺</i>	1	10	800	3.02	4384.27....	<i>Fe⁺</i>	1	1	400	5.46	
4334.84....	<i>V⁺-La⁺</i>	2 ³	2	400	4.86	4384.69....	<i>V-Sc⁺</i>	4 ²	3	500	3.10	
4337.12....	<i>Fe</i>	5	4	600	4.40	4385.14....	<i>Cr-La⁺</i>	4 ³	4	600	3.84	
4337.98....	<i>Ti⁺</i>	4	20	2500	3.92	4385.34....	<i>Fe⁺</i>	2	10	1200	5.58	
4338.77....	<i>Fe⁺-Mn</i>	1 ²	2	400	5.22	4386.81....	<i>Ti⁺</i>	1	8	800	5.40	
4340.63....	<i>H_γ</i>	20	150	8000	13.00	4387.49....	<i>Cr-CH</i>	2 ³	2	400	5.79	
4342.13....	<i>Gd⁺</i>	0	1d	400	3.44	4387.86....	<i>He</i>	.....	5	2000	23.94
4343.20....	<i>Fe-Cr</i>	4 ²	3	500	6.08	4388.39....	<i>Fe</i>	3	2	400	6.40	
4343.65....	<i>Fe</i>	2	2	400	5.87	4389.24....	<i>Fe</i>	2	2	400	2.86	
4344.39....	<i>Ti⁺-Cr</i>	6 ²	12d	1200	3.92	4389.95....	<i>V</i>	2	2	400	3.09	
4346.70....	<i>Fe-Cr</i>	3 ²	2	400	6.13	4390.47....	<i>Fe-Mg⁺</i>	2 ²	1	400	5.79	
4347.39....	<i>Fe-P_r⁺</i>	2 ²	2	400	2.84	4390.96....	<i>Ti⁺-Fe</i>	3 ²	8	700	4.04	
4347.90....	<i>Fe-Sm⁺</i>	3 ²	3	500	6.43	4391.67....	<i>Ce⁺-Cr</i>	2 ²	6	600	3.13	
4348.94....	<i>Fe</i>	2	3	400	5.82	4393.01....	<i>Fe</i>	0	1	400	5.81	
4349.76....	<i>Ce⁺</i>	—	1	2	400	3.53	4394.01....	<i>Ti⁺-Ti</i>	3 ²	8d	800	
4351.05....	<i>Cr-Ti⁺</i>	4 ²	4d	600	3.80	4395.13....	<i>Ti⁺-V</i>	6 ²	40	3000	3.89	
4351.84....	<i>Fe⁺-Cr</i>	10 ²	25	2000	5.53	4395.89....	<i>Ti⁺</i>	1	6	600	4.05	
4352.81....	<i>Fe-V</i>	5 ²	8d	600	5.05	4397.18....	<i>Cr</i>	—	1	1d	400	
4354.18....	<i>Ti-Cr</i>	1 ⁴	1	400	4.99	4398.00....	<i>V⁺</i>	1	6	800	2.94	
4354.74....	<i>Sc⁺</i>	2 ²	5	800	3.44	4398.32....	<i>Ti⁺</i>	0	6	800	4.02	
4355.08....	<i>Ca-Eu⁺</i>	2	1	400	5.53	4399.79....	<i>Ti⁺</i>	3	15	1200	4.04	
4356.00....	<i>Ni-CH</i>	1 ²	2	400	6.45	4400.52....	<i>Sc⁺-V</i>	4 ²	15	1200	3.41	
4356.72....	<i>Cr-</i>	2 ⁴	1	400	5.83	4400.92....	<i>Ni</i>	0	1	400	6.44	
4358.13....	<i>Nd⁺</i>	0	3d	400	3.15	4401.35....	<i>Fe</i>	3 ²	2	400	6.39	

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
4401.57....	<i>Ni</i>	2	3	500	5.98	4438.23....	<i>Fe-Ti</i>	2 ^a	2	400	6.45
4403.36....	<i>Zr⁺-Cr</i>	0	4d	500	3.98	4439.84....	<i>Fe</i>	1	1	350	5.05
4404.27....	<i>Ti</i>	1	2	400	5.04	4440.37....	<i>Zr⁺-V⁺</i>	1 ^a	4	500	3.98
4404.79....	<i>Fe</i>	10	25	1800	4.35	4440.92....	<i>Fe-Ce⁺</i>	2 ^a	1d	400	6.72
4405.76....	<i>Ti</i>	0	1	350	3.85	4441.74....	<i>Ti⁺-V</i>	3	5	600	3.95
4406.11....	<i>V⁺⁻-V</i>	0	1	350	4.59	4442.33....	<i>Fe</i>	6	4	600	4.97
4406.68....	<i>V</i>	2	2	400	3.10	4443.03....	<i>Zr⁺-Fe</i>	5 ^a	4	500	4.26
4407.67....	<i>Fe-Ti⁺</i>	6 ^a	4d	500	4.97	4443.85....	<i>Ti⁺</i>	5	35	3000	3.85
4408.18....	<i>V</i>	2	3	500	3.07	4444.60....	<i>Ti⁺</i>	2	5	600	3.89
4408.46....	<i>Fe-V</i>	5 ^a	4	500	4.99	4445.40....	<i>Fe</i>	1	1	350	2.86
4408.75....	<i>V-Pr⁺</i>	— 1	1	400	3.06	4445.69....	<i>Co</i>	— 1	1	350	5.87
4409.38....	<i>Ti⁺</i>	2 ^a	4	600	4.02	4446.28....	<i>Fe⁺-Nd⁺</i>	0 ^a	4	600	8.71
4410.13....	<i>Cr</i>	1 ^a	1	400	5.80	4446.86....	<i>Fe</i>	2	2	400	6.45
4410.53....	<i>Ni</i>	1	2	500	6.09	4447.19....	<i>Fe</i>	2	2	400	4.96
4411.08....	<i>Ti⁺-Cr</i>	1	4	600	5.88	4447.73....	<i>Fe</i>	6	5	800	4.49
4411.84....	<i>Ti⁺-Mn</i>	2 ^a	3	600	4.02	4449.18....	<i>Ti</i>	2	5d	800	4.65
4412.15....	<i>Cr</i>	1 ^a	1	400	3.82	4449.67....	<i>V-Fe⁺</i>	— 1	1	400	4.12
4413.10....	<i>Zr</i>	— 1	1	350	4.19	4450.37....	<i>Ti⁺-Fe</i>	3 ^a	15	1800	3.85
4413.60....	<i>Fe⁺-Cr</i>	2 ^a	2	350	5.46	4450.77....	<i>Ce⁺</i>	— 1	3	400	2.98
4414.12....	<i>V⁺</i>	— 1	1	350	4.34	4450.98....	<i>Ti</i>	1	1	400	4.64
4414.63....	<i>Zr⁺</i>	— 1	2	400	4.03	4451.55....	<i>Mn-Nd⁺</i>	3	5	600	5.65
4415.12....	<i>Fe</i>	8	12	1500	4.40	4452.01....	<i>V</i>	0	2	400	4.63
4415.53....	<i>Sc⁺</i>	3	15	1500	3.39	4452.76....	<i>Sm⁺</i>	— 1	2	400	3.05
4416.43....	<i>V</i>	0	1	400	3.06	4452.98....	<i>Mn</i>	1	1	400	5.70
4416.84....	<i>Fe⁺</i>	2	15	1200	5.56	4453.30....	<i>Ti</i>	2	1	400	4.19
4417.22....	<i>Ti</i>	0	1	400	4.67	4453.72....	<i>Ti</i>	1	1	350	4.54
4417.71....	<i>Ti⁺</i>	3	20	1500	3.95	4454.41....	<i>Fe</i>	3	3	500	5.59
4418.36....	<i>Ti⁺</i>	1	4	600	4.02	4454.77....	<i>Ca</i>	5	15	1500	4.66
4418.86....	<i>Ce⁺-Gd⁺</i>	1 ^a	2	400	3.18	4455.29....	<i>Ti-Mn</i>	2	2	400	4.21
4419.97....	<i>V</i>	— 1	1	350	3.07	4455.86....	<i>Ca-Mn</i>	5 ^a	5	600	4.66
4420.54....	<i>Sc⁺-Sm⁺</i>	0 ^a	3d	400	3.41	4456.50....	<i>Fe</i>	1	2	400	5.80
4421.25....	<i>Co-Sm⁺</i>	0 ^a	0	350	5.71	4456.50....	<i>Ca-Ti⁺</i>	2	2	400	4.66
4421.61....	<i>V</i>	0	1	350	3.07	4457.04....	<i>Mn</i>	0	1	350	5.83
4421.91....	<i>Ti⁺</i>	1	3	500	4.84	4457.50....	<i>Zr⁺-Ti</i>	2	4	500	3.95
4422.61....	<i>Y⁺⁻-Fe</i>	3	5	600	2.89	4457.50....	<i>Mn</i>	2	2	500	5.83
4423.21....	<i>Fe-Ti⁺</i>	2 ^a	2	350	5.77	4458.08....	<i>Fe-Mn</i>	4 ^a	3	400	6.64
4423.82....	<i>Fe</i>	2	2	350	6.43	4458.60....	<i>Cr-Sm⁺</i>	0	1	400	5.77
4424.35....	<i>Cr-Sm⁺</i>	1 ^a	4	400	5.79	4459.11....	<i>Fe-Ni</i>	5 ^a	6d	600	4.93
4425.35....	<i>Ca</i>	4	6	800	4.66	4459.81....	<i>V-Cr</i>	1	1	400	3.05
4426.12....	<i>Ti-V</i>	0	2	400	4.66	4460.37....	<i>Ce⁺-V</i>	1 ^a	8	800	2.77
4427.05....	<i>Ti</i>	2	2	400	4.28	4461.12....	<i>Zr⁺-Fe</i>	2 ^a	3	500	3.77
4427.34....	<i>Fe</i>	5	15	1200	2.84	4461.60....	<i>Fe</i>	4	12	1200	2.85
4427.75....	<i>Ti⁺-Cr</i>	0 ^a	2	400	4.02	4461.98....	<i>Mn-Fe</i>	3	2	400	5.83
4428.39....	<i>V-Cr</i>	1 ^a	1	400	3.05	4462.52....	<i>Ni</i>	1	2	400	6.22
4429.17....	<i>Ce⁺-Pr⁺</i>	— 1	3	500	3.39	4463.02....	<i>Nd⁺-Fe</i>	0 ^a	3	500	3.32
4429.99....	<i>La⁺-Cr</i>	0 ^a	7	800	3.02	4463.51....	<i>Ti-Ni</i>	1 ^a	2	400	4.64
4430.57....	<i>Fe</i>	3	4	500	5.00	4464.56....	<i>Ti⁺-Mn</i>	4 ^a	12d	1200	3.92
4431.29....	<i>Sc⁺-Ti</i>	1 ^a	2	400	3.39	4465.30....	<i>Cr</i>	0	1	350	5.76
4432.21....	<i>Ti⁺-Cr</i>	0 ^a	2	400	4.02	4465.75....	<i>Ti</i>	1	1	350	4.50
4432.70....	<i>Fe</i>	2 ^a	1	400	6.34	4466.59....	<i>Fe</i>	5	8	1000	5.58
4433.21....	<i>Fe</i>	3	3	400	6.42	4466.93....	<i>Fe</i>	— 1	1	400	6.67
4433.88....	<i>Ti-Fe</i>	2 ^a	3	400	4.21	4467.30....	<i>Sm⁺</i>	— 1	3	400	3.42
4434.32....	<i>Sm⁺</i>	— 1	1	350	3.16	4468.48....	<i>Ti⁺</i>	5	40	2500	3.89
4434.98....	<i>Ca-Fe</i>	7 ^a	10	1200	4.66	4469.37....	<i>Fe</i>	4	6	500	6.40
4435.60....	<i>Ca</i>	4	8	1000	4.66	4469.60....	<i>Co-V</i>	1 ^a	1	350	5.71
4436.20....	<i>Mn-V</i>	3 ^a	2d	400	5.69	4470.11....	<i>Mn</i>	1	0	350	5.69
4436.93....	<i>Fe-Ni</i>	2	2	400	5.82	4470.47....	<i>Ni</i>	2	2	400	6.15
4437.70....	{ <i>He</i>	—	—	1000	23.91	4471.54....	<i>He</i>	—	90	7500	23.63
	{ <i>V</i>	1 ^a	2d	1000	3.07	4472.88....	<i>Fe⁺-Fe</i>	2 ^a	7d	600	5.59
						4474.05....	<i>V</i>	— 1	0	350	4.71

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
4474.74....	V	— 1	0	350	4.64	4519.58....	Sm ⁺	— 1	2	400	3.27
4474.90....	Ti	0	1	350	4.19	4520.22....	Fe ⁺	3	20	1000	5.52
4476.04....	Fe	7 ²	9	800	5.59	4521.18....	Cr	0	1	400	6.81
4477.26....	Cr-Y	0 ²	1d	350	5.45	4522.34....	La ⁺	— 1	1	400	2.73
4477.97....	Fe	0	0	350	4.94	4522.67....	Fe ⁺ -Ti	5 ²	25	1500	5.56
4478.73....	Gd ⁺ -Sm ⁺	0 ²	1	350	3.35	4523.07....	Ce ⁺ -Sm ⁺	0	2	500	2.77
4479.56....	Fe-Mn	2 ³	2	400	6.43	4523.89....	Sm ⁺	— 1	2	500	3.16
4480.08....	Fe-	2 ²	1	350	5.79	4524.65....	Ti ⁺	0	2	500	3.95
4480.54....	Ni-Ti	0	0	350	6.64	4525.15....	Fe-Ba ⁺	6 ²	5	600	6.31
4481.23....	Mg ⁺ -Ti	2 ²	6d	600	11.58	4526.10....	La ⁺ -Cr	0	1	400	3.50
4482.23....	Fe	8 ²	10	1000	2.86	4526.46....	Cr-Fe	4 ³	3	500	5.26
4482.71....	Ti-Fe	1	2	400	4.21	4526.94....	Ca	3	3	500	5.42
4483.87....	Ce ⁺ -Fe	1 ³	2	400	3.14	4527.33....	Ti-Cr	3	4	500	3.54
4484.25....	Fe	4	3	600	6.34	4528.60....	Fe	8	8d	800	4.89
4485.66....	Fe	3	4	600	6.42	4529.55....	Ti ⁺ -Fe	2 ²	6d	800	4.29
4486.92....	Ce ⁺	0	5	600	3.04	4530.92....	Cr-Co	4 ³	5	600	5.26
4488.06....	Fe-Cr	2 ²	1	400	6.34	4531.17....	Fe	5	5	600	4.20
4488.36....	Ti ⁺	1	5	600	5.86	4531.63....	Fe	2	2	400	5.92
4489.02....	Ti-Fe	2 ²	3	400	4.48	4533.17....	Ti-Fe	5 ²	5d	600	3.57
4489.19....	Fe ⁺	2	10	800	5.57	4534.03....	Ti ⁺ -Fe ⁺	7 ²	40	2500	3.95
4489.73....	Fe	4	4	600	2.87	4534.73....	Ti	4	3	500	3.55
4490.10....	Mn-Fe	3	4	600	5.69	4535.58....	Ti-Cr	4 ²	6	800	3.54
4490.67....	Fe-Ni	3 ²	2d	400	6.67	4535.99....	Ti	4 ²	5	800	3.54
4491.46....	Fe ⁺	2	12	1000	5.59	4536.55....	Fe-Cr	— 1	0	350	6.35
4492.50....	Cr-Fe	1 ²	1d	350	6.11	4537.18....	Ti	— 1	1	350	.....
4493.51....	Ti ⁺ -Fe ⁺	1	3	400	3.82	4537.83....	Fe-Sm ⁺	1 ²	2d	400	5.97
4493.98....	Fe-Ce ⁺	2 ²	1	400	6.71	4539.01....	Fe-Ti	2 ⁵	1d	350	4.99
4494.55....	Fe	6	6	600	4.93	4539.80....	Cr-Ce ⁺	0	4	600	5.25
4495.08....	Ti-Cr	0 ²	1	350	5.70	4540.61....	Cr	4 ²	3d	500	5.25
4495.49....	Zr ⁺ -Fe	1 ²	1	350	3.95	4541.50....	Fe ⁺ -Cr	3 ²	7d	800	5.56
4496.16....	Ti	1	2	400	4.49	4542.26....	Fe-Zr	2 ²	2	400	6.34
4496.88....	Cr	3	5	600	3.68	4542.71....	Fe-Cr	1 ²	2	400	6.39
4497.00....	Zr ⁺	0	5	600	3.45	4543.80....	Co	0	1	400	5.42
4497.95....	Ce ⁺	— 2	1	350	3.22	4544.03....	Ti ⁺	1	4	800	3.95
4498.85....	Mn	1	2	400	5.67	4544.68....	Ti-Cr	4 ²	5	500	3.53
4499.15....	.....	1	1	350	.....	4545.12....	Ti ⁺	1	5	500	3.84
4499.47....	Sm ⁺	— 2	0	350	2.99	4545.96....	Cr	3	5	500	3.65
4500.27....	Ti ⁺ -Cr	0	1	350	3.82	4547.04....	Fe-Ni	4 ³	4d	500	4.26
4501.28....	Ti ⁺	5	35	2500	3.85	4547.86....	Fe	3	4	500	6.24
4501.82....	Cr	0	1	350	5.64	4548.84....	Ti	2	2	500	3.54
4502.29....	Mn	2	1	350	5.65	4549.63....	Ti ⁺ -Fe ⁺	8 ²	50	2500	4.29
4503.82....	Ti-	0 ²	0	350	4.87	4550.70....	Fe	2	1	350	.....
4504.84....	Fe	1	1	350	5.99	4551.17....	Ni	0	1	350	6.86
4505.40....	Ti	1 ³	1d	350	4.83	4552.46....	Ti	2	6d	600	3.54
4506.35....	Ni	— 1	0	350	6.27	4553.00....	V-Zr	— 1	0	350	5.06
4506.76....	Ti ⁺	1 ³	2d	350	3.86	4554.11....	Ba ⁺	8	50	2500	2.71
4507.30....	Cr ⁺	— 1	1	350	5.83	4554.95....	Gr ⁺	2	1d	400	6.76
4508.32....	Fe ⁺	4	18	1200	5.58	4555.52....	Ti	3	2	400	3.55
4509.30....	Fe-V	0	1	350	5.77	4555.89....	Fe ⁺	3	25	1200	5.52
4509.87....	Fe	1 ²	1	400	.....	4557.30....	Sc	0	0d	350	.....
4511.10....	Ti-Fe	1 ²	1d	400	6.66	4558.57....	Cr ⁺ -Fe ⁺	3 ²	18d	1800	6.76
4511.84....	Sm ⁺	1	3	500	2.92	4560.09....	Fe	2	2	400	6.29
4512.74....	Ti	3	3	500	3.57	4560.33....	Ce ⁺	0 ²	3	500	3.14
4513.05....	Ni	0	1	400	6.42	4560.85....	V-Ce ⁺	0 ³	1	400	4.65
4514.40....	Fe-V	3 ³	3d	500	5.77	4561.42....	.....	1	0	350	.....
4515.32....	Fe ⁺	3	18	1200	5.57	4562.30....	Ce ⁺	0	5	600	2.71
4516.29....	Fe	0	2	400	6.32	4563.76....	Ti ⁺	4	30	2500	3.92
4517.56....	Fe	3	2	400	5.79	4564.62....	V ⁺ -Fe	1 ²	1d	350	4.96
4518.04....	Ti	3	3	500	3.55	4565.50....	Cr	3	4	600	3.68
4518.31....	Ti ⁺	1	5	1000	3.81	4565.72....	Co-Fe	2	2	400	5.71
4518.69....	Ti-	1 ²	0	350	4.15	4566.67....	Fe	2 ²	0	350	5.25

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
4568.35....	Ti^+	0	3	400	3.92	4617.30....	Ti	3	3	500	4.41
4568.85....	Fe	2 ²	2	400	5.95	4618.81....	Cr^+Fe	4	6	1000	6.73
4569.39....	Cr	0 ²	1	400	5.81	4619.30....	Fe	3	2	400	6.26
4569.80....	$Cr-Co$	1 ²	0	400	5.81	4619.70....	$Cr-V$	2 ²	1	350	5.65
4571.08....	Mg	5	8	800	2.70	4620.55....	Fe^+	2	8	800	5.49
4572.00....	Ti^+	6	40	2500	4.26	4621.50....	Cr^+	—	1	350	6.37
4574.24....	Fe	1	1	350	5.90	4621.91....	Cr	2 ²	2d	400	5.20
4574.74....	$Fe-La^+$	2 ²	3	400	4.97	4622.40....	Cr	1	1	400	6.21
4576.32....	Fe^+	2	10	800	5.53	4623.10....	Ti	2	4	500	4.40
4577.20....	V	0	2	400	2.70	4624.40....	V	—	1	0	350
4577.68....	Sm^+-Fe^+	0 ²	2	400	2.94	4625.03....	Fe	5	4	500	5.90
4578.54....	Ca	3	2	400	5.21	4626.21....	Cr	5	6d	800	3.63
4578.80....	V	—	1	350	4.63	4626.60....	Mn	0	1	350	.....
4579.24....	Fe	1 ²	1	350	5.52	4627.44....	V^+	1 ²	1d	350	6.45
4579.99....	$Cr-La^+$	3	5	400	3.63	4628.16....	Ce^+	1 ²	5	500	2.71
4580.42....	$V-Ti^+$	1	3	400	2.71	4629.42....	Fe^+-Ti	6	30	1200	5.46
4581.42....	$Ca-Fe$	8 ²	6d	600	5.21	4630.14....	Fe	4	2	350	4.93
4582.32....	Gd^+	1 ²	1	400	3.94	4632.18....	Cr	0	0	350	5.76
4582.86....	Fe^+	1	5	600	5.52	4632.85....	Fe	5 ²	5	500	4.26
4583.40....	Ti^+	0	1	400	3.85	4633.26....	Cr	0	0	350	5.78
4583.86....	Fe^+	4	30	1800	5.49	4634.04....	Cr^+	2	8	1000	6.72
4584.76....	Fe	3 ²	2d	400	6.28	4635.35....	Fe^+	0	1	350	8.59
4585.91....	Ca	4	4	500	5.21	4635.83....	Fe	2	2	500	5.49
4586.31....	$V-Cr$	2 ²	3	500	2.73	4636.31....	Ti^+	0	2	500	3.82
4587.11....	Fe	2	1	400	6.25	4637.14....	Cr	0	0	350	5.19
4588.20....	Cr^+	3	10	1200	6.74	4637.49....	Fe	5	4	500	5.93
4589.93....	Ti^+	3	12	1200	3.92	4638.02....	Fe	4	4	500	6.25
4591.22....	$V-Fe^+$	—	1	350	5.05	4639.51....	$Ti-Cr$	5 ³	3d	400	4.39
4591.39....	Cr	2	2	500	3.65	4640.16....	$Ti-V$	2 ²	2d	400	4.39
4591.96....	Cr^+	2 ²	2d	500	6.74	4641.14....	Fe	1 ²	1d	350	5.48
4592.50....	Ni	2	3	500	6.22	4642.31....	Sm^+	—	1	3d	400
4592.70....	Fe	4	4	500	4.24	4643.41....	Fe	4	3	400	6.30
4593.53....	$Fe-Sm^+$	1	0	350	6.61	4644.19....	Fe^+	1 ³	1d	350	5.34
4593.99....	$V-Ce^+$	4 ³	5d	500	2.75	4645.31....	$Ti-La^+$	1 ³	1	350	4.38
4595.28....	$Fe-Sm^+$	2	2	400	5.97	4646.16....	Cr	5	10	1000	3.68
4595.87....	$Fe-Fe^+$	3 ³	2d	400	6.27	4646.72....	Cr	2 ²	1	350	5.74
4596.99....	$Co-Nd^+$	1 ²	1d	400	6.30	4647.45....	Fe	4	5	500	5.59
4597.75....	Gd^+	2 ²	2	400	3.28	4648.05....	Cr	2 ²	0	350	5.19
4598.14....	Fe	3	2	400	5.95	4648.86....	$Ni-Cr$	5 ³	5d	500	6.06
4598.75....	Fe	0	0d	350	6.32	4649.45....	Cr	0	1	350	5.19
4599.67....	$Fe-Ti$	2 ²	1d	350	.....	4650.03....	Ti	0	1	350	4.39
4600.17....	V^+-Cr	1 ²	2	600	4.94	4651.29....	Cr	4	5	800	3.63
4600.74....	Cr	3	5	800	3.68	4652.16....	Cr	5	7	800	3.65
4601.16....	$Cr-Gd^+$	1 ²	1	400	5.79	4653.42....	$Fe-Ti$	0 ²	1	400	3.64
4602.03....	Fe	3	3	400	4.28	4654.11....	Ce^+	0	0	350	3.17
4602.95....	Fe	6	5	600	4.16	4654.64....	Fe	9 ²	7d	600	5.85
4604.53....	Cr	2	1	400	5.99	4655.73....	La^+-Ni	1 ³	2d	350	4.59
4604.96....	Ni	3	3	500	6.15	4656.44....	Ti	3	2	350	2.65
4605.66....	.....	2	0	350	.....	4657.10....	Ti^+-Fe^+	3 ²	6d	800	3.89
4606.29....	$Ni-Cr$	3 ²	3d	500	6.26	4660.19....	.....	1 ⁴	0d	350	.....
4607.31....	Sr	1	3	500	2.68	4661.97....	Fe	2	1	350	5.62
4607.67....	Fe	4	2	500	5.93	4662.77....	La^+-Ti^+	2 ³	2d	350	2.65
4609.26....	Ti^+	0	1	350	3.85	4663.35....	$Cr-Co$	2 ²	3	400	5.73
4609.92....	Cr	0	0	350	7.11	4663.82....	Fe^+-Cr	2 ²	3	400	5.52
4611.29....	Fe	5	5d	600	6.31	4664.83....	Cr	3	1	350	5.76
4613.24....	Fe	3	2	400	5.95	4666.09....	Cr	2 ²	1d	350	5.60
4613.42....	$Cr-La^+$	3	6	600	3.63	4666.74....	Fe^+-Cr	4 ⁴	10d	800	5.46
4613.93....	Zr^+	1	2	400	3.64	4667.61....	$Fe-Ti$	8 ³	8	500	6.23
4615.57....	Sm^+	1	2d	400	2.86	4668.13....	Fe	6 ²	4d	400	5.90
4616.09....	Cr	4	6	800	3.65	4669.25....	$Fe-Cr$	4 ²	3	400	6.28
4616.63....	Cr^+	1	2	500	6.73	4669.58....	Sm^+-Ce^+	0 ³	2	400	2.75

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
4670.38....	<i>Sc</i> ⁺	2	9	800	3.99	4718.43....	<i>Cr</i>	3	3	400	5.80
4671.40....	<i>Cr</i> ⁺	1	0	350	8.28	4719.52....	<i>Ti</i> ⁺	0	2d	350	3.85
4672.34....		3	1	350	.....	4721.02....	<i>Fe</i>	2	2	350	5.59
4673.15....	<i>Fe</i>	3	2	400	6.28	4722.16....	<i>Zn</i>	3	5	500	6.63
4674.13....		2 ²	1	350	.....	4723.30....	<i>Ti</i> ⁺	0 ²	2d	350	3.67
4674.65....	<i>Fe-Sm</i> ⁺	0	2	400	4.19	4724.36....	<i>Cr-La</i> ⁺	0	3	400	5.69
4676.86....	<i>Sm</i> ⁺⁻ <i>Ti</i>	— 1	1	350	2.68	4726.13....	<i>Fe</i>	0	0	350	5.60
4677.42....	<i>Co</i>	— 1	0	300	3.22	4727.44....	<i>Fe-Mn</i>	5 ²	6d	600	6.28
4678.82....	<i>Fe</i>	6	3	400	6.22	4728.15....		0	0	350	.....
4679.20....	<i>Fe</i>	2	1	400	5.99	4728.57....	<i>Fe</i>	4	3	400	6.25
4680.14....	<i>Zn</i>	1	3	500	6.63	4729.42....	<i>Fe-Cr</i>	2 ²	1d	350	5.99
4680.72....	<i>Cr-Nd</i> ⁺	1 ²	2	400	5.72	4730.04....	<i>Mg</i>	2	2	400	6.94
4681.46....	<i>Fe</i>	1	0	350	.....	4730.87....	<i>Cr</i> ⁺	2 ²	2	400	5.67
4681.95....	<i>Ti</i>	3	4	500	2.68	4731.48....	<i>Fe</i> ⁺	4	8	800	5.49
4682.41....	<i>Y</i> ⁺ <i>-Co</i>	1	3	600	3.04	4731.76....	<i>Ni</i>	1	1	350	6.42
4683.53....	<i>Fe</i>	3	2	600	5.45	4732.46....	<i>Ni</i>	1	1	350	6.70
4684.25....	<i>V</i>	0 ²	1	350	4.53	4733.61....	<i>Fe</i>	4	4	500	4.09
4684.60....	<i>Ce</i> ⁺⁻ <i>Cr</i>	0	1	350	3.53	4734.08....	<i>Fe-Sc</i>	1	1	350	6.88
4685.22....	<i>Ca-Zr</i> ⁺	3 ²	2	400	5.55	4735.86....	<i>Fe</i>	3	2	350	6.66
4685.83....	<i>He</i> ⁺	2N	3500	50.80	4736.79....	<i>Fe</i>	6	6	500	5.80
4686.17....	<i>Ni</i>	3	2	350	6.22	4737.33....	<i>Cr</i>	2	2	350	5.68
4687.33....	<i>Fe-Sa</i> ⁺	3 ³	2d	350	3.59	4737.64....	<i>Fe-Sc</i>	1	1	350	5.86
4687.77....	<i>Zr</i>	0	0	300	3.36	4739.12....	<i>Mn</i>	3	3	400	5.53
4688.55....	<i>Zr-Ti</i>	1 ²	1	350	2.79	4739.52....	<i>Zr-Ce</i> ⁺	— 1	1	350	3.25
4689.33....	<i>Cr</i>	2	2	350	5.74	4740.19....	<i>Ni-La</i> ⁺	— 1	4	400	6.47
4690.14....	<i>Fe</i>	4	2	350	6.30	4740.37....	<i>Fe</i> ⁺	2 ²	2	400	5.61
4690.80....	<i>Ti</i>	— 1	1	350	3.69	4741.00....	<i>Fe-Sc</i>	2 ²	1	350	5.92
4691.51....	<i>Fe-Ti</i>	7 ³	5d	500	5.61	4741.56....	<i>Fe</i>	3	2	350	5.42
4692.58....	<i>La</i> ⁺	1 ³	2	350	4.38	4742.75....	<i>Ti</i>	1	1	350	4.83
4693.80....	<i>Ti-Cr</i>	2 ²	1	350	2.65	4743.05....	<i>Cr-La</i> ⁺	— 2	3	350	6.79
4694.81....	<i>Fe</i>	1	0	350	.....	4744.38....	<i>Fe</i>	3	2	350	.....
4695.27....	<i>Cr</i> ⁺	1 ²	1	350	5.60	4745.75....	<i>Fe</i>	4	4	400	6.24
4697.23....	<i>Cr</i>	2 ²	2d	350	5.32	4748.18....	<i>Sc</i> ⁺	4	4	400	7.46
4698.66....	<i>Cr-Ti</i> ⁺	3 ³	6d	500	5.32	4748.76....	<i>La</i> ⁺	— 2	1	350	3.52
4699.35....		3	2	350	.....	4749.78....	<i>Fe-Co</i>	2 ²	3d	350	7.14
4700.16....	<i>Fe</i>	4	2	350	6.30	4751.11....	<i>Cr-Fe</i>	1	1	350	6.77
4701.09....	<i>Fe</i>	1	2	350	6.30	4752.02....	<i>Ni-Cr</i>	2	1	350	6.26
4701.52....	<i>Ni</i>	1	2	350	6.70	4752.42....	<i>Ni</i>	3	3	400	6.24
4701.93....	<i>Fe</i>	0	0	350	6.04	4753.99....	<i>Mn</i>	7	6	800	4.87
4702.99....	<i>Mg</i>	10	8	800	6.95	4754.74....	<i>Ni-Cr</i>	1	1	350	6.22
4703.76....	<i>Ni</i>	3	3	400	6.27	4756.07....	<i>Cr</i>	2	2	350	5.69
4704.36....	<i>Sm</i> ⁺	1 ³	1d	350	2.62	4756.49....	<i>Ni</i>	3	3	500	6.06
4704.93....	<i>Fe</i>	3	3	400	6.29	4757.55....	<i>Fe</i>	2	2	350	5.85
4705.45....	<i>Fe</i>	1	0	350	6.15	4758.11....	<i>Ti</i>	1	2	350	4.83
4706.52....	<i>Nd</i> ⁺⁻ <i>V</i>	0	2	400	2.62	4759.32....	<i>Ti</i>	2	3	350	4.84
4707.31....	<i>Fe</i>	7 ²	5d	500	5.85	4760.08....	<i>Fe</i>	— 1	1	350	5.62
4708.00....	<i>Cr</i>	2	1	350	5.78	4761.56....	<i>Mn</i>	3	4	400	5.53
4708.63....	<i>Ti</i> ⁺	2	5	600	3.85	4762.49....	<i>Mn-Ni</i>	6 ²	5d	500	5.47
4708.93....	<i>Fe-Ti</i>	1	1	350	6.24	4762.86....	<i>Ti</i> ⁺	0	3	400	3.67
4709.15....	<i>Fe</i>	3	1	350	6.26	4763.98....	<i>Ti</i> ⁺ <i>-Ni</i>	4	8	800	3.81
4709.71....	<i>Mn</i>	2	2	400	5.50	4764.52....	<i>Ti</i> ⁺	0	4	400	3.82
4710.24....	<i>Fe</i>	3	4	500	5.62	4765.46....	<i>Fe</i>	2	3	400	4.19
4711.50....	<i>Fe</i>	0	1	350	.....	4765.89....	<i>Mn</i>	3	3	400	5.52
4712.09....	<i>Fe-Ni</i>	0	0	350	5.62	4766.38....	<i>Mn</i>	4	4	500	5.50
4713.15....	<i>He</i>	.....	15N	5000	23.49	4768.32....	<i>Fe</i> ⁺	5 ²	4d	400	5.52
4713.99....	<i>Fe-Ce</i> ⁺	1 ³	1	350	7.16	4769.79....	<i>Ti-Cr</i>	— 1	1	350	4.83
4714.40....	<i>Ni</i>	6	8	600	5.98	4771.13....	<i>Ti-Co</i>	— 1	1	350	3.41
4714.96....	<i>Ce</i> ⁺⁻ <i>Cr</i> ⁺	— 2	2	400	3.20	4771.60....	<i>Fe-Cr</i>	5 ²	3d	400	4.77
4715.80....	<i>Ni</i>	4	5	500	6.15	4772.79....	<i>Fe</i>	4	2	350	4.14
4716.82....	<i>Fe</i>	— 1	0	350	5.85	4773.39....	<i>Ni</i>	— 1	0	350	6.28
4717.56....	<i>La</i> ⁺⁻ <i>Cr</i>	1 ³	1d	350	4.67	4773.99....	<i>Ce</i> ⁺	— 2	0	350	3.03

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
4776.11....	<i>Fe</i>	0	0	350	5.87	4843.21....	<i>Fe-Ni</i>	3	2	350	5.93
4776.40....	<i>V-Co</i>	0	3	400	4.63	4844.09....	<i>Fe</i>	1	1	350	6.08
4778.26....	<i>Ti</i>	-1	1	350	4.81	4845.66....	<i>Fe</i>	1	0	300	5.82
4779.41....	<i>Fe</i>	1	1	350	5.98	4848.30....	<i>Cr⁺</i>	2	7	800	6.39
4779.97....	<i>Ti⁺-Co</i>	2	12	1000	4.62	4848.87....	<i>Fe</i>	1	1	300	4.81
4781.48....	<i>Co</i>	-2	1d	350	4.46	4849.15....	<i>Ti⁺</i>	0	4	400	3.67
4783.47....	<i>Mn</i>	6	10	800	4.87	4851.49....	<i>V</i>	1	2	400	2.54
4783.97....	.....	0	1	350	.....	4852.59....	<i>Ni</i>	2	1	300	6.07
4786.00....	<i>Fe</i>	0	1	350	6.70	4854.82....	<i>V⁺</i>	1	8	600	3.53
4786.50....	<i>Y⁺-Ni</i>	3	12	600	3.61	4855.37....	<i>Ni</i>	3	2	400	6.07
4786.86....	<i>Fe</i>	2	1	400	5.58	4855.70....	<i>Fe</i>	2	2	400	5.90
4787.90....	<i>Fe</i>	1	1d	350	5.56	4856.00....	<i>Ti</i>	1	0	300	4.79
4788.74....	<i>Fe</i>	3	2	350	5.80	4857.33....	<i>Ni</i>	1	2d	400	6.26
4789.31....	<i>Cr</i>	2	5	500	5.11	4859.03....	<i>Fe-Nd⁺</i>	1 ²	1	350	6.71
4789.63....	<i>Fe</i>	3	4	500	6.11	4859.77....	<i>Fe</i>	4	4	600	5.40
4791.15....	<i>Fe</i>	2 ²	2d	400	5.84	4861.50....	<i>Hβ</i>	30	160	9000	12.69
4792.49....	<i>Ti-Cr</i>	2	4	500	4.90	4863.65....	<i>Fe</i>	2	1	350	5.95
4792.94....	<i>Co</i>	1	3	400	5.81	4864.32....	<i>Cr⁺</i>	1	4	500	6.38
4794.38....	<i>Fe</i>	-1	0	300	4.99	4864.71....	<i>V</i>	0	1	300	2.55
4796.24....	<i>Ti-Cr</i>	-1	0	300	4.90	4865.52....	<i>Ti⁺</i>	1	2	400	3.65
4798.29....	<i>Fe</i>	1	1	350	6.74	4866.35....	<i>Ni</i>	2	2	400	6.06
4798.62....	<i>Ti⁺-Fe</i>	2 ²	4d	500	3.65	4868.02....	<i>Co-Ti</i>	2 ²	3d	400	5.64
4799.46....	<i>Fe</i>	1	1	350	6.20	4870.19....	<i>Ti</i>	1	0	300	4.77
4799.80....	<i>Ti-V</i>	1	1	350	4.83	4870.80....	<i>Cr-Ni</i>	3	0	350	5.60
4800.64....	<i>Fe</i>	2	2	350	6.70	4871.36....	<i>Fe</i>	5	7	800	5.39
4801.04....	<i>Cr-Fe</i>	1	1	350	5.68	4872.17....	<i>Fe</i>	4	7	800	5.40
4802.86....	<i>Fe</i>	2	2d	350	6.20	4873.45....	<i>Ni</i>	2	2	400	6.22
4804.05....	<i>La⁺</i>	-2	1	350	2.80	4873.98....	<i>Ti⁺</i>	0	5	600	5.61
4805.13....	<i>Ti⁺</i>	3	15	1000	4.62	4875.51....	<i>V</i>	1	1	350	2.57
4807.06....	<i>Ni</i>	2	2	400	6.23	4875.93....	<i>Fe</i>	2	1	350	5.85
4807.75....	<i>Fe</i>	1	0	300	5.92	4876.41....	<i>Cr⁺</i>	1	6	600	6.37
4808.50....	<i>Fe-Ti</i>	1 ³	1	300	5.80	4878.18....	<i>Fe-Ca</i>	7 ²	7d	600	5.40
4809.06....	<i>Fe-Ni</i>	0 ²	0	300	6.24	4881.57....	<i>V</i>	1	1	350	2.60
4810.45....	<i>Zn</i>	3	5	400	6.63	4881.75....	<i>Fe</i>	2	3	400	5.82
4811.24....	<i>V⁺-Ti</i>	0 ²	0d	300	6.31	4882.18....	<i>Fe</i>	3	2	400	5.93
4812.18....	<i>Cr⁺-Ni</i>	1 ²	1	300	6.41	4883.75....	<i>Y⁺</i>	2	15	800	3.61
4813.10....	<i>Fe</i>	0	0	300	5.82	4884.66....	<i>Cr⁺</i>	0	1	300	6.37
4813.48....	<i>Co</i>	1	4	400	5.77	4885.07....	<i>Ti</i>	2	2	350	4.41
4814.56....	<i>Ni</i>	-1	0	300	6.15	4885.43....	<i>Fe</i>	3	2	350	6.39
4815.74....	<i>Zr-Sm⁺</i>	-1 ²	2d	300	3.16	4886.37....	<i>Fe</i>	3	1	350	6.66
4817.75....	<i>Fe-Ni</i>	2	2	400	4.77	4887.11....	<i>Fe-Cr</i>	4 ²	4d	400	6.70
4820.39....	<i>Ti</i>	1	4	400	4.06	4888.61....	<i>Fe</i>	2	1	350	6.61
4821.10....	<i>Ni</i>	0	0	300	6.70	4889.10....	<i>Fe</i>	4 ²	4	400	4.71
4823.46....	<i>Mn</i>	5	10	1000	4.87	4890.78....	<i>Fe</i>	8	10	800	5.39
4824.09....	<i>Cr⁺-Fe</i>	3	12	1000	6.41	4891.54....	<i>Fe</i>	7	12	800	5.36
4825.47....	<i>Nd⁺-Ti</i>	0 ³	8	600	2.74	4892.92....	<i>Fe</i>	2	1	350	6.72
4827.50....	<i>V-Ti</i>	0 ²	1d	300	2.60	4893.85....	<i>Fe⁺-Ce⁺</i>	0 ³	2d	350	5.34
4829.00....	<i>Ni</i>	3	5	400	6.08	4894.61....	.....	-1	0	300	.....
4829.40....	<i>Cr</i>	2	2	350	5.09	4896.50....	<i>Fe</i>	1	1	300	6.39
4831.13....	<i>Ni</i>	3	4	400	6.15	4899.89....	<i>Ti-La⁺</i>	2	2	400	4.39
4831.70....	<i>V</i>	-1	0	300	2.57	4900.14....	<i>Y⁺</i>	2	20	1000	3.55
4832.40....	<i>V</i>	-1	0	300	2.55	4901.00....	<i>Ni-Ti</i>	0	0	350	5.98
4832.76....	<i>Fe-Ni</i>	3	3	400	6.18	4902.28....	.....	0 ²	1d	350	.....
4834.56....	<i>Fe</i>	1	1	300	4.97	4903.29....	<i>Fe</i>	4	8	800	5.39
4835.84....	<i>Fe</i>	2	3	400	6.64	4904.38....	<i>Ni-V</i>	3	4	400	6.04
4836.28....	<i>Cr⁺</i>	0	2	400	6.39	4905.15....	<i>Fe</i>	0	0	300	6.43
4838.54....	<i>Fe-Ni</i>	3 ²	3	400	5.95	4907.72....	<i>Fe</i>	2	1d	300	5.93
4839.55....	<i>Fe</i>	3	2	350	5.80	4908.02....	<i>Fe</i>	0	0	300	.....
4840.24....	<i>Fe-Co</i>	5 ²	5	400	6.69	4909.29....	<i>Fe</i>	2	1d	300	6.43
4840.83....	<i>Ti</i>	3	2	350	3.45	4910.00....	<i>Fe</i>	3	2	400	5.90
4842.83....	<i>Fe</i>	1	1	350	6.63	4910.32....	<i>Fe</i>	2	2	400	6.69

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
4910.61	Fe	2	1	350	6.71	4978.20	Ti	—	1	300	4.44
4911.17	Ti ⁺	1	2	400	5.62	4978.58	Fe	3	3	400	6.45
4911.97	Ni-Fe	2 ²	1d	350	6.26	4979.62	Fe	—	1	0	300
4913.58	Ti	2	2	350	4.38	4980.17	Ni	4	3	400	6.07
4913.99	Ni	2	2	350	6.24	4981.72	Ti	4	4	500	3.32
4917.24	Fe	2	2	350	6.68	4982.51	Fe	4	3	500	6.56
4918.00	Fe	1	0	300	6.72	4983.33	Fe	3	3	500	6.61
4918.37	Ni	2	2	350	6.33	4983.97	Fe-Ni	5 ²	4	500	6.56
4919.02	Fe	6	8	800	5.36	4985.29	Fe	3	3	500	6.39
4919.84	Ti	—	1	300	4.66	4985.59	Fe	3	3	500	5.33
4920.50	Fe	10	12	800	5.33	4986.28	Fe	1	0	300	6.67
4920.92	La ⁺	0	3	500	2.63	4986.80	La ⁺	—	1d	350	2.65
4921.80	La ⁺ -Ti	1	4	500	2.75	4988.99	Fe	2	2	350	6.61
4922.01	He	—	6	3000	23.63	4991.11	Ti-Fe	5 ²	6d	800	3.31
4923.09	Fe	0	0	300	....	4993.47	Fe ⁺⁻	1 ²	4d	600	5.27
4923.96	Fe ⁺	5	35	2000	5.39	4994.08	Fe	3	4	600	3.38
4924.83	Fe	3	1	350	4.77	4996.82	Ni	1	1	350	6.09
4925.32	Fe	—	1	300	6.59	4997.11	Ti	0	1	350	2.47
4925.60	Ni	1	1	350	6.15	4998.22	Ni	1	1	350	6.06
4927.35	Fe	1	0	300	6.06	4999.49	Ti-La ⁺	3	3d	600	3.31
4927.87	Fe	2	2	400	....	5000.32	Ni	2	2	350	6.09
4928.37	Ti	0	1	350	4.65	5001.04	Ti	0	2	350	4.46
4930.37	Fe	2	2	400	6.45	5001.85	Fe	4	3	400	6.33
4930.81	Ni	—	1	300	6.33	5002.82	Fe	2	1d	300	5.85
4932.02	V	0	1d	300	3.72	5003.72	Ni	0	1	350	4.14
4933.31	Fe	2	2	350	6.71	5004.05	Fe	0	1	350	6.66
4934.08	Ba ⁺	7	30	1800	2.50	5005.21	Ti ⁺	0	0	350	4.02
4935.78	Ni	2	2	350	6.42	5005.68	Fe	4	4	600	6.33
4936.25	Cr	1	2	350	5.60	5006.13	Fe	5	5	800	5.29
4937.40	Ni	3	2	350	6.09	5007.24	Ti-Fe	5 ²	4d	600	3.28
4938.12	Fe	2	2	350	6.43	5009.72	Ti	—	1	0	400
4938.84	Fe	4	4	600	5.36	5010.25	Ti ⁺	—	1	2	400
4939.24	Fe	2	2	400	6.70	5010.94	Ni	0	0	350	6.08
4939.65	Fe	3	4	500	3.35	5012.08	Fe	5 ²	5d	600	3.32
4942.49	Cr	2	1	350	3.43	5012.49	Ni	1	1	350	6.15
4945.54	Fe-Ni	2 ²	2d	350	6.69	5013.14	Ti-Cr	3 ²	2	400	4.47
4946.00	Ni	0	0	300	6.28	5013.67	Ti ⁺	0	2	400	4.04
4946.41	Fe	3	3	400	5.85	5014.25	Ti-Fe	5 ²	2	400	3.27
4950.09	Fe	2	2	350	5.90	5014.98	Fe	3	2	400	6.39
4952.34	Ni	1	0	350	6.08	5015.68	He	—	8	3500	22.99
4952.64	Fe	2	1	350	6.58	5016.15	Ti	2	1	350	3.31
4953.20	Ni	2	2	350	6.22	5017.53	Ni	3	2	350	5.98
4954.60	Fe	1	1	350	....	5018.44	Fe ⁺⁻	4	40	2000	5.34
4954.86	Cr	2	2	350	5.60	5019.76	Fe	—	1	0	300
4957.30	Fe	5	6	800	5.33	5020.02	Ti	2	1	350	3.29
4957.58	Fe	8	12	1000	5.29	5021.67	Fe-	0 ²	0	300	6.66
4959.07	Nd ⁺	—	3	400	2.55	5022.26	Fe	3	3	400	6.42
4961.91	Fe-Sm ⁺	0	0	300	6.11	5022.87	Ti	2	1	350	3.28
4962.57	Fe	2	1	300	6.65	5023.19	Fe	0	1	300	6.72
4964.88	Cr	1	0	300	3.42	5023.54	Fe	0	0	300	6.75
4965.22	Ni	0	1	300	6.27	5024.82	Ti	3	2	400	3.27
4966.15	Fe	4	3	400	5.80	5025.52	Ti	1	2	400	4.49
4967.85	Fe	3	3	400	6.66	5027.18	Fe	3	3	400	6.59
4968.62	Fe-Ti	2 ²	2	350	6.11	5027.76	Fe	1	1	300	6.65
4969.87	Fe	3	2	350	6.68	5028.19	Fe	2	2	400	6.01
4970.45	Fe-La ⁺	1	2	350	6.10	5029.61	Fe	1	1	350	5.85
4971.35	Ni-	1	2	350	7.00	5031.00	Sc ⁺	3	15	800	3.80
4973.03	Fe-Ti	3	4	400	6.42	5031.92	Fe	—	1	0	300
4975.42	Ti-Fe	0 ²	1d	350	4.98	5032.80	Ni	—	1	0	300
4976.19	Ni	2 ²	1	350	4.15	5033.60	C ₂	—	1 ²	0	300
4977.65	Fe	0	1	300	6.39	5033.98	C ₂	—	1 ²	0	300

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
5035.40...	<i>Ni</i>	5	3	400	6.07	5088.30...	<i>Ni-Fe</i>	1 ²	0	350	6.26
5035.91...	<i>Ti-Ni</i>	5 ²	2	400	3.90	5089.22...	<i>Fe⁺</i>	1 ²	2	350	....
5036.25...	<i>Fe</i>	0	1	400	....	5090.79...	<i>Fe</i>	5	4	400	6.66
5036.49...	<i>Ti</i>	2	2	400	3.89	5092.10...	<i>Cr-C₂</i>	0 ²	1	350	3.42
5036.87...	<i>Fe⁺</i>	— 1	0	300	5.27	5092.80...	<i>Nd⁺</i>	— 2	1	350	2.80
5037.75...	<i>C₂</i>	— 1 ²	0	300	....	5093.42...	<i>Fe⁺</i>	— 2 ²	1	300	9.20
5038.41...	<i>Ti</i>	2	2	400	3.87	5094.40...	<i>Ni</i>	0	0	300	6.24
5038.63...	<i>Ni</i>	2	2	400	6.27	5095.21...	<i>C₂</i>	0 ²	2	350	....
5039.22...	<i>Fe-Ni</i>	3	1	350	5.80	5095.91...	<i>C₂</i>	0 ³	1	300	....
5039.98...	<i>Ti</i>	3	2	400	2.47	5097.01...	<i>Fe</i>	3	3	400	6.69
5040.97...	<i>Fe</i>	7 ²	5	800	3.40	5097.50...	<i>C₂</i>	0	1	350	....
5041.71...	<i>Fe-Ca</i>	6 ²	5	800	3.93	5098.42...	<i>Fe-</i>	1 ²	1	350	6.33
5042.18...	<i>Ni</i>	1	1	400	6.09	5098.72...	<i>Fe</i>	3	2	400	4.59
5043.59...	<i>Ti</i>	— 1	0	300	3.28	5099.22...	<i>Ni-Fe</i>	2 ²	1	400	6.06
5044.25...	<i>Fe-Co</i>	3	2	400	5.29	5099.96...	<i>Ni</i>	2	3	400	6.08
5045.38...	<i>Ti-</i>	0 ²	0d	300	3.29	5100.82...	<i>Fe⁺</i>	0 ³	2	400	5.21
5047.74...	<i>He</i>	....	— 1	400	23.57	5101.26...	<i>Sc-Fe⁺</i>	— 1 ²	1	350	3.86
5048.04...	<i>Ni</i>	0	0	350	6.26	5103.00...	<i>Ni</i>	1	1	350	4.09
5048.47...	<i>Fe</i>	3	2	400	6.39	5103.55...	<i>C₂</i>	0 ³	1	350	....
5048.88...	<i>Ni</i>	2	2	400	6.28	5104.13...	<i>Fe</i>	1 ²	2	350	6.58
5049.85...	<i>Fe</i>	6	5	700	4.71	5105.25...	<i>C₂</i>	1 ³	1	350	....
5051.66...	<i>Fe</i>	4	6	700	3.35	5105.53...	<i>Cu</i>	4	4	400	3.80
5052.91...	<i>Ti</i>	0	2	400	4.61	5106.44...	<i>C₂</i>	— 1 ²	1d	350	....
5054.70...	<i>Fe</i>	1	1	300	6.07	5107.58...	<i>Fe</i>	8 ²	8d	800	3.40
5056.06...	<i>Si⁺-Fe</i>	— 1	2	400	12.47	5109.20...	<i>C₂</i>	— 1 ²	1	350	....
5056.82...	<i>Fe</i>	1	1	300	6.68	5109.70...	<i>Fe</i>	2	1	400	6.70
5057.53...	<i>Fe</i>	0	0	300	6.61	5110.46...	<i>Fe</i>	5	12	800	2.41
5057.95...	<i>Fe</i>	1	1	300	6.37	5110.74...	<i>Cr</i>	0	1	350	5.11
5058.50...	<i>Fe</i>	— 1	0	300	6.07	5111.33...	<i>C₂</i>	— 1 ²	1	350	....
5060.07...	<i>Fe</i>	3	2	400	2.44	5111.66...	<i>C₂</i>	— 1 ²	1	350	....
5062.12...	<i>Ti</i>	0	0	300	4.59	5112.24...	<i>Zr⁺</i>	— 2	2	350	4.07
5063.17...	<i>C₂</i>	0 ²	1	350	....	5113.09...	<i>Cr</i>	— 1	1	350	5.11
5064.57...	<i>Ti</i>	4 ²	4	500	2.48	5113.47...	<i>Ti</i>	0	1	350	3.85
5065.00...	<i>Fe</i>	4 ²	4	500	6.67	5114.29...	<i>C₂</i>	— 2	1	350	....
5065.18...	<i>Fe</i>	2	2	500	6.06	5114.55...	<i>La⁺</i>	— 2	1	350	2.65
5067.21...	<i>Fe</i>	3	2	400	6.64	5115.41...	<i>Ni</i>	2	2	400	6.23
5067.71...	<i>Cr</i>	0	0	300	5.13	5116.17...	<i>Cr⁺</i>	— 3	1	350	6.11
5068.74...	<i>Fe</i>	5	4	600	5.36	5116.68...	<i>C₂</i>	— 1 ²	1	350	....
5070.01...	<i>C₂</i>	0 ²	2d	400	....	5116.93...	<i>C₂</i>	— 1	1	350	....
5071.49...	<i>Ti</i>	0	0	300	3.89	5117.97...	<i>Mn</i>	— 1	1	350	5.53
5072.04...	<i>Fe</i>	3	3	500	6.70	5118.17...	<i>C₂</i>	— 2 ²	1	350	....
5072.34...	<i>Ti⁺</i>	0	2	500	5.54	5119.18...	<i>Y⁺</i>	— 1	2	400	3.04
5072.64...	<i>Fe</i>	2	1	350	6.64	5119.48...	<i>C₂</i>	— 1 ³	1	350	....
5073.43...	<i>C₂</i>	— 1	2d	350	....	5120.43...	<i>Ti-Fe⁺</i>	1 ³	3d	400	4.98
5074.76...	<i>Fe</i>	5	3	500	6.63	5121.60...	<i>Fe-Ni</i>	3 ²	3	400	6.67
5075.40...	<i>Ce⁺-C₂</i>	— 1	2	500	2.98	5122.97...	<i>La⁺</i>	— 2	2	400	2.73
5076.24...	<i>Fe</i>	3	2	400	6.71	5123.18...	<i>Y⁺</i>	0	2	600	3.40
5076.61...	<i>C₂</i>	— 1	2	350	....	5123.73...	<i>Fe</i>	3	4	800	3.42
5079.10...	<i>Fe</i>	7 ²	5d	600	4.62	5125.13...	<i>Fe-Ni</i>	4 ²	4	400	6.61
5079.84...	<i>Fe-Ni</i>	5 ²	5d	600	3.42	5126.23...	<i>Fe-Co</i>	2	2	400	6.65
5080.59...	<i>Ni</i>	4	3	400	6.07	5126.78...	<i>C₂</i>	— 1 ²	1	350	....
5081.09...	<i>Ni</i>	3	2	400	6.26	5127.35...	<i>Fe</i>	3	3	500	3.32
5081.72...	<i>Sc-Fe</i>	1 ³	1	300	3.87	5127.82...	<i>Fe-Fe⁺</i>	0 ³	1	350	2.46
5082.33...	<i>Ni</i>	2	1	300	6.07	5128.48...	<i>C₂</i>	0 ³	1d	350	....
5083.37...	<i>Fe</i>	4	6	600	3.38	5129.12...	<i>Ti⁺</i>	3	8	800	4.29
5084.13...	<i>Ni</i>	3	3	400	6.09	5129.42...	<i>Ni-Fe</i>	3 ²	2	400	6.07
5084.56...	<i>Fe-C₂</i>	— 1 ²	0	300	6.11	5130.30...	<i>Ni</i>	— 1	1	350	6.23
5085.54...	<i>Sc-Ti</i>	1 ³	1	300	3.85	5130.56...	<i>Nd⁺-C₂</i>	— 2	2	400	3.70
5086.26...	<i>C₂</i>	0 ²	1	300	....	5131.49...	<i>Fe</i>	2	2	400	4.62
5087.04...	<i>Ti-Sc</i>	0	1	400	3.85	5131.75...	<i>Ni</i>	1	2	350	6.09
5087.45...	<i>Y⁺</i>	1	8	800	3.51	5132.40...	<i>C₂</i>	— 1 ²	1	350	....

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
5132.72....	Fe^+Ti	0 ²	2	350	5.20	5177.36....	$Fe-Cr$	1 ²	0	350	6.06
5133.65....	Fe	4	3	400	6.56	5180.11....	Fe	1	1	350	6.84
5134.47....	C_2	0 ³	1d	350	.....	5183.58....	Mg	30	70	3500	5.09
5135.65....	C_2	— 1 ²	0	300	.....	5184.30....	Fe	2	1	350	6.65
5136.16....	$Fe-C_2$	0 ²	0	300	6.57	5185.85....	Ti^+	2	7	800	4.26
5137.06....	Ni	3	3	400	4.07	5187.96....	Fe	1	2	350	6.50
5137.42....	Fe	3	2	400	6.56	5188.69....	Ti^+	2	20	1000	3.95
5137.66....	C_2	— 1 ²	0	300	.....	5189.68....	Ti	— 1 ²	0	300	4.61
5138.38....	C_2	— 1 ³	0	300	.....	5191.49....	Fe	4	8	800	5.40
5139.25....	Fe	4	5	800	5.39	5191.93....	Cr	— 1	1	350	5.76
5139.43....	Fe	5	6	800	5.33	5192.43....	Fe	5	8	800	5.36
5139.65....	Cr	— 1	1	350	5.81	5192.97....	Ti	2	3	350	2.40
5141.23....	C_2	— 1 ²	0	350	.....	5194.98....	Fe	4	8	500	3.93
5141.75....	Fe	3	2	400	4.81	5195.48....	Fe	2	2	400	6.58
5142.50....	Fe	4	3	500	6.64	5196.09....	Fe	1	1	300	6.61
5142.88....	$Fe-Ni$	5 ²	4	600	3.35	5196.48....	$Cr-Y^+$	0	1	350	5.81
5144.58....	$Cr-C_2$	0 ²	0	350	5.10	5197.57....	Fe^+	2	15	1000	5.59
5145.15....	Fe	1	1	350	4.59	5197.94....	Fe	0	0	300	6.66
5145.52....	Ti	0	1	350	3.85	5198.73....	Fe	3	4	400	4.59
5146.12....	Fe^+-C_2	— 1	1	350	5.21	5200.15....	Cr	— 1	0	300	5.74
5146.50....	Ni	3	3	400	6.09	5200.42....	Y^+	0	7	100	3.36
5147.10....	C_2	— 2	1	350	.....	5201.15....	Ti	— 2	0	300	4.46
5147.61....	$Ti-C_2$	1 ³	2	400	2.40	5202.27....	Fe	6 ²	6d	500	4.54
5148.13....	Fe	5 ²	3	400	6.64	5204.54....	$Cr-Fe$	8 ²	12d	1200	3.31
5149.13....	C_2	— 1 ²	1	350	.....	5205.75....	Y^+	0	6	600	3.40
5150.18....	Fe	— 1	0	350	5.97	5206.05....	Cr	5	15	1200	3.31
5150.62....	C_2	— 1 ²	1	350	.....	5208.37....	Cr	5	25	1200	3.31
5150.83....	Fe	4	4	500	3.38	5208.65....	Fe	2	2	400	5.60
5151.88....	Fe	3	3	500	3.40	5210.32....	Ti	3	4d	600	3.42
5152.21....	Ti	0	2	400	2.42	5211.37....	Ti^+	0 ²	1d	400	4.95
5153.13....	$Cu-C_2$	2 ³	3	400	6.16	5212.73....	Co	— 2	1d	300	5.87
5154.10....	Ti^+	2	8	800	3.95	5214.12....	Cr	— 1	0	300	5.72
5154.40....	Fe^+-C_2	— 1 ²	2	400	5.23	5215.19....	Fe	3	3	300	5.62
5155.16....	Ni	1	0	350	6.28	5216.31....	Fe	3	6	800	3.97
5155.80....	Ni	2	2	400	6.28	5217.40....	Fe	3	2	400	5.56
5156.60....	La^+-C_2	— 1	1	350	2.52	5218.15....	$Cu-Fe$	2 ²	2d	400	6.17
5157.59....	C_2	0 ³	1	350	.....	5220.12....	$Ni-Pr^+$	0	1d	350	6.09
5157.95....	Ni	— 1	1	350	5.98	5221.80....	Cr	0	0	300	5.72
5158.53....	C_2	— 1 ²	0	350	.....	5223.17....	Fe	0	0	300	5.98
5159.10....	Fe	2	2	400	6.66	5224.19....	$Ti-Cr$	1 ²	0	300	4.49
5159.55....	C_2	— 1 ²	1	350	.....	5224.82....	$Cr-Ti$	1 ³	1d	350	5.80
5160.27....	C_2	— 1	1	350	.....	5225.47....	Fe	2	2	350	2.47
5161.05....	Fe^+-C_2	— 1 ²	1	400	5.23	5226.53....	Ti^+	2	12	1000	3.92
5161.67....	C_2	— 1 ²	1	350	.....	5227.04....	$Fe-Cr$	9 ²	12	1000	3.91
5162.31....	Fe	5	3	400	6.55	5228.39....	Fe	1	1	300	6.56
5162.90....	C_2	— 1 ²	1	350	.....	5229.87....	Fe	4	4	500	5.63
5163.41....	C_2	— 1 ³	1	350	.....	5230.20....	$Cr-Co$	— 1	1	400	5.06
5164.24....	C_2	— 1 ³	1	350	.....	5232.98....	Fe	7	10	800	5.29
5164.71....	C_2	— 1 ²	1	400	.....	5234.63....	Fe^+	2	15	1000	5.57
5164.98....	$Fe-C_2$	— 1 ³	6	400	6.51	5235.43....	$Fe-Ni$	2 ²	2	400	4.93
5165.18†††	C_2	— 2 ²	400	.....	5236.22....	Fe	0	0	300	6.53	
5166.26....	$Fe-Cr$	3	4	600	2.39	5237.31....	Cr^+	1	5	600	6.41
5167.35....	$\{Mg$	15	40	2000	5.09	5238.54....	Fe^+-Ti	— 2	0	300	5.23
5168.99....	$\{Fe$	5	3	.....	3.87	5238.93....	Cr	— 1	0	300	5.05
5170.70....	Fe^+-Fe	7 ²	45	2000	5.27	5239.79....	Sc^+	1	7	600	3.80
5171.56....	Fe	0	1	350	.....	5242.50....	Fe	2	2	400	5.97
5172.65....	Mg	20	60	3000	5.09	5246.72....	Cr^+-Ti	— 1 ²	1	350	6.05
5173.73....	Ti	2	3	500	2.39	5247.09....	Fe	1	1	350	2.44
5175.39....	Fe^+	— 1 ²	0	300	.....	5247.56....	Cr	3	2	400	3.31
5176.57....	Ni	1	1	350	6.27	5249.52....	Cr^+-Nd^+	3	3d	400	6.09

††† Head of third band.

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
5250.17....	<i>Fe</i>	2	1	350	2.47	5319.87....	<i>Nd⁺-Fe</i>	1 ²	3d	600	2.87
5250.66....	<i>Fe</i>	3	3	400	4.54	5321.09....	<i>Fe</i>	2	1	350	6.73
5251.98....	<i>Ti⁺</i>	1	2d	350	4.93	5322.08....	<i>Fe</i>	3	2	350	4.59
5253.53....	<i>Fe</i>	2	2	350	5.62	5324.22....	<i>Fe</i>	7	8	600	5.52
5254.90....	<i>Fe-Fe⁺</i>	3	5	500	2.46	5325.59....	<i>Fe⁺</i>	2	7	600	5.52
5255.28....	<i>Cr-Fe</i>	1 ²	2	350	5.80	5326.13....	<i>Fe</i>	—	1	300	5.32
5256.86....	<i>Fe⁺</i>	— 1	1	350	5.23	5326.77....	<i>Fe</i>	—	1	300	6.71
5257.79....	<i>Co-Fe</i>	0 ²	1	350	6.30	5328.03....	<i>Fe</i>	8	12	800	3.23
5259.32....	<i>La⁺</i>	2	350	2.52	5328.44....	<i>Fe-Cr</i>	10 ²	10	800	3.87
5261.70....	<i>Ca</i>	3	1	400	4.86	5329.18....	<i>Cr</i>	3	2	350	5.22
5262.21....	<i>Ti⁺-Ca</i>	4 ²	5	600	3.92	5329.96....	<i>Fe</i>	2	2	350	6.37
5263.39....	<i>Fe</i>	4	3	400	5.60	5330.61....	<i>Ce⁺</i>	— 2	1	350	2.71
5263.87....	<i>Fe</i>	0	2	400	5.90	5331.40....	<i>Co</i>	— 1	0	300	4.09
5264.20....	<i>Cr-Ca</i>	10 ²	4	500	3.31	5332.68....	<i>V⁺-Co</i>	1	1	400	4.57
5264.77....	<i>Fe⁺</i>	1	4	500	5.56	5332.90....	<i>Fe</i>	4	6d	500	3.86
5265.70....	<i>Ca-Cr</i>	6 ³	4	500	4.86	5334.22....	<i>Sc⁺</i>	— 2	1	400	3.80
5266.60....	<i>Fe</i>	6	6	500	5.33	5334.88....	<i>Cr⁺</i>	1	3	600	6.37
5268.32....	<i>Ni</i>	0	0	350	6.86	5336.77....	<i>Ti⁺</i>	4	12	1000	3.89
5268.62....	<i>Ti⁺</i>	— 1	3	350	4.93	5337.76....	<i>Fe⁺-Cr⁺</i>	1 ²	4	400	5.53
5269.55....	<i>Fe</i>	8	15	1000	3.20	5339.98....	<i>Fe</i>	6	6	500	5.56
5270.32....	<i>Fe-Ca</i>	7 ²	12	800	3.94	5340.46....	<i>Cr</i>	0	0	300	5.73
5272.00....	<i>Cr</i>	— 1	1	350	5.78	5341.10....	<i>Fe-Mn</i>	8 ³	12d	800	3.91
5273.14....	<i>Fe</i>	4	3	400	5.62	5342.69....	<i>Co</i>	1	2	400	6.31
5273.44....	<i>Fe</i>	2	5	600	4.81	5343.46....	<i>Co</i>	3 ²	3	400	6.32
5274.22....	<i>Ce⁺</i>	— 1	2	350	2.90	5345.78....	<i>Cr</i>	5	8	800	3.31
5275.01....	<i>Cr⁺-Fe</i>	0	2	350	6.39	5346.59....	<i>Fe⁺-Cr⁺</i>	0	1	350	5.52
5275.25....	<i>Cr-Fe</i>	2 ²	1	350	5.22	5347.48....	<i>Co</i>	— 1	1	350	6.44
5275.99....	<i>Fe⁺-Cr</i>	6 ³	20	800	5.52	5348.34....	<i>Cr</i>	4	5	500	3.31
5279.88....	<i>Cr⁺</i>	0	1	350	6.39	5349.47....	<i>Ca</i>	4	3	500	5.00
5280.33....	<i>Cr⁺-Fe</i>	1 ²	2	400	6.39	5349.71....	<i>Fe-Sc</i>	1	1	350	6.67
5280.60....	<i>Co</i>	— 1	1	350	5.95	5350.17....	<i>Zr⁺</i>	1 ²	3	400	4.13
5281.80....	<i>Fe</i>	5	5	400	5.36	5351.01....	<i>Ti</i>	— 1	0	300	5.07
5282.31....	<i>Ti</i>	— 1	1	350	3.38	5352.01....	<i>Co</i>	1	3	400	5.87
5283.64....	<i>Fe</i>	6	6	600	5.56	5353.43....	<i>Fe-Ce⁺</i>	4 ²	8d	600	6.39
5284.12....	<i>Fe⁺</i>	2	10	800	5.21	5355.74....	<i>Sc</i>	— 1	0	300	4.25
5285.13....	<i>Fe</i>	0	0	350	6.75	5357.22....	<i>Sc⁺</i>	— 1	1	300	3.80
5288.60....	<i>Fe</i>	2	2	350	6.01	5359.21....	<i>Co</i>	— 1	0	300	6.43
5289.58....	<i>Y⁺</i>	— 1 ²	0	350	3.36	5361.66....	<i>Fe-Nd⁺</i>	1	4	400	6.70
5292.50....	<i>Fe</i>	0	1	350	....	5362.86....	<i>Fe⁺</i>	3	15	800	5.49
5293.15....	<i>Nd⁺</i>	— 1	4	400	3.15	5364.86....	<i>Fe</i>	5	5	500	6.73
5293.96....	<i>Fe</i>	0	0	350	6.46	5365.35....	<i>Fe</i>	3	4	500	5.86
5295.30....	<i>Fe-Sc</i>	0	1	350	6.73	5367.46....	<i>Fe</i>	6	6	500	6.70
5296.69....	<i>Cr</i>	3	3	400	3.31	5368.22....	<i>Cr⁺</i>	— 1 ²	0d	300	6.14
5297.40....	<i>Cr</i>	2	1	400	5.22	5369.63....	<i>Co</i>	1	1	350	4.03
5298.00....	<i>Cr</i>	1	1	400	5.22	5369.98....	<i>Fe</i>	6	6	500	6.65
5298.28....	<i>Cr</i>	4	5	500	3.31	5371.51....	<i>Fe</i>	8 ²	15d	1000	3.25
5298.82....	<i>Fe</i>	0	0	300	5.96	5373.64....	<i>Fe-Cr</i>	2	2d	350	6.75
5300.82....	<i>Cr</i>	2	2	400	3.31	5377.62....	<i>Mn</i>	2	3	350	6.12
5302.05....	<i>La⁺</i>	— 2	1	400	2.73	5379.52....	<i>Fe</i>	3	2	300	5.97
5302.35....	<i>Fe</i>	5	4	400	5.60	5380.35....	0	0	300	....
5303.39....	<i>La⁺-V⁺</i>	1 ²	2	350	2.65	5381.04....	<i>Ti⁺-La⁺</i>	2	8	800	3.85
5305.86....	<i>Cr⁺</i>	0	1	350	6.14	5382.20....	0	0d	300	....
5307.40....	<i>Fe</i>	3	3	500	3.93	5383.32....	<i>Fe</i>	6	6	600	6.59
5308.49....	<i>Cr⁺</i>	0	2	400	6.38	5385.57....	<i>Fe</i>	— 1	0	300	5.97
5311.79....	<i>Zr⁺</i>	— 2	1	350	4.07	5386.37....	<i>Fe</i>	1	1	350	6.43
5312.85....	<i>Cr</i>	0	0	300	5.76	5387.50....	<i>Fe-Cr</i>	0 ²	0	300	6.42
5313.57....	<i>Cr⁺</i>	1	2	400	6.38	5388.36....	<i>Ni</i>	0 ²	0d	300	4.22
5315.07....	<i>Fe</i>	1	1	350	6.67	5389.48....	<i>Fe</i>	3	3	400	6.69
5316.67....	<i>Fe⁺</i>	6 ²	40	1200	5.46	5390.31....	<i>Cr-Ti</i>	1 ³	1d	350	5.64
5318.32....	<i>Sc⁺-Cr⁺</i>	— 1	0	300	3.67	5391.42....	<i>Fe</i>	2	3	400	6.43
5318.78....	<i>Cr</i>	0	0	300	5.74	5391.65....	<i>Fe</i>	1	1	400	4.97

TABLE 1—Continued

Chromo-sphere	Elements	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	
5392.10....	<i>Ni-Sc</i>	0 ²	0	300	6.42	5460.49....	<i>Ti</i>	—	1	0	300	2.31
5393.20....	<i>Fe</i>	5	5	400	5.52	5462.55....	<i>Ni</i>	1	1	300	6.09	
5393.42....	<i>Ce⁺</i>	— 2	2	350	2.91	5462.95....	<i>Fe</i>	3	3	400	6.71	
5394.67....	<i>Mn-Fe</i>	2 ²	3	400	2.29	5463.26....	<i>Fe</i>	3	4	400	6.67	
5395.18....	<i>Fe</i>	0	1	300	6.71	5464.15....	<i>Fe-Cr</i>	1 ²	1d	350	6.38	
5396.27....	<i>Ti⁺</i>	— 1	1	300	3.86	5466.41....	<i>Fe-Y</i>	3	3	400	6.61	
5397.14....	<i>Fe</i>	7	12	800	3.20	5466.97....	<i>Fe</i>	1	1	300	5.82	
5397.66....	<i>Fe</i>	1	1	300	5.91	5468.47....	<i>Ti⁺-Ni</i>	0 ³	1d	300	4.84	
5398.27....	<i>Fe</i>	3	3	400	6.71	5470.10....	<i>Fe</i>	0	0	300	6.68	
5399.43....	<i>Mn</i>	1	2	400	6.12	5470.64....	<i>Mn</i>	1 ²	2	400	4.41	
5400.46....	<i>Fe</i>	3	5	400	6.64	5472.36....	<i>Ce⁺</i>	— 2	1	350	3.02	
5401.27....	<i>Fe</i>	0	0	300	6.59	5472.72....	<i>Ti-Fe</i>	1	2	400	3.69	
5401.99....	<i>V-</i>	0 ³	1d	300	4.63	5473.37....	<i>Y⁺</i>	— 2	1	300	3.99	
5402.76....	<i>Y⁺</i>	0	2	400	4.12	5473.89....	<i>Fe</i>	3	3	500	6.39	
5403.88....	<i>Fe</i>	2	3	500	6.34	5474.40....	<i>Ti-</i>	0 ²	0d	300	3.71	
5404.12....	<i>Fe</i>	5	6	500	6.58	5476.27....	<i>Fe</i>	1	1	400	6.38	
5405.39....	<i>Fe</i>	1	1	300	6.65	5476.58....	<i>Fe</i>	3	4	400	6.34	
5405.84....	<i>Fe</i>	6	12	500	3.27	5476.92....	<i>Ni</i>	5	8	800	4.07	
5406.80....	<i>Fe</i>	1	0	300	6.64	5477.71....	<i>Fe⁺-Ti</i>	— 1	1	300	5.46	
5407.50....	<i>Cr⁺-Mn</i>	1 ²	3d	400	6.09	5478.42....	<i>{Cr⁺</i>	— 1	2	400	6.41	
5409.16....	<i>Fe</i>	2	2	400	6.63	5478.42....	<i>\Fe</i>	0	2	400	6.43	
5409.81....	<i>Cr</i>	5	7	800	3.31	5480.60....	<i>Y⁺-Cr</i>	0 ²	3	400	3.97	
5410.89....	<i>Fe</i>	4	6	400	6.73	5480.92....	<i>Fe-Ni</i>	1	2	400	6.45	
5411.24....	<i>Ni</i>	1	2	400	6.35	5481.38....	<i>Fe-Ti</i>	2 ²	2	350	6.34	
5412.80....	<i>Fe</i>	— 1	0	300	6.70	5481.85....	<i>Ti-Sc</i>	0 ²	1	350	3.67	
5413.69....	<i>Mn</i>	— 1	0	300	6.12	5483.10....	<i>Fe</i>	1	1	350	6.39	
5414.04....	<i>Fe⁺</i>	0	4	400	5.49	5483.38....	<i>Co</i>	1	2	350	3.95	
5415.23....	<i>Fe</i>	5	7	500	6.65	5483.88....	<i>Co</i>	— 2	0	300	5.87	
5417.05....	<i>Fe</i>	0	1	300	6.67	5484.64....	<i>Sc</i>	— 2	1	300	4.09	
5418.80....	<i>Ti⁺</i>	1	7	800	3.85	5485.63....	<i>Nd⁺</i>	— 3	2	350	3.51	
5420.30....	<i>Mn</i>	1 ²	2	400	4.41	5487.14....	<i>Fe</i>	1	1	350	6.65	
5420.94....	<i>Cr⁺</i>	— 1	1	300	6.02	5487.54....	<i>Fe</i>	— 1	0	350	5.87	
5421.20....	0	0	300	.....	5487.78....	<i>Fe</i>	3	4	400	6.37	
5422.02....	<i>Fe-</i>	0 ²	0	300	6.58	5489.75....	<i>Fe</i>	0 ²	0	300	6.67	
5424.07....	<i>Fe</i>	6	8	800	6.58	5490.11....	<i>Ti</i>	0	0	300	3.70	
5424.65....	<i>Ni</i>	1	2	350	4.22	5490.72....	<i>Ti⁺</i>	0	3	400	3.82	
5425.30....	<i>Fe⁺</i>	1	8	800	5.46	5491.90....	<i>Fe</i>	— 1	0	300	6.42	
5429.50....	<i>Fe</i>	1	1	350	6.45	5493.51....	<i>Fe</i>	1	2	350	6.33	
5429.73....	<i>Fe</i>	6	15	800	3.23	5494.45....	<i>{Fe</i>	0	0	300	6.30	
5430.36....	<i>Cr⁺</i>	— 1	0	300	6.11	5494.45....	<i>\Y⁺</i>	— 3	1	400	3.99	
5431.60....	<i>Nd⁺</i>	— 2	1	300	3.39	5497.42....	<i>Fe</i>	5	8	800	3.25	
5432.40....	<i>Mn-Cr</i>	2 ²	3	400	2.29	5499.55....	<i>Fe</i>	— 1	0	300	6.70	
5432.90....	<i>Fe-Fe⁺</i>	2	4	400	6.70	5501.47....	<i>Fe</i>	5	7	800	3.20	
5433.60....	0 ²	0	300	.....	5502.04....	<i>Cr⁺</i>	— 1	0	300	6.39	
5434.54....	<i>Fe</i>	5	10	800	3.28	5503.02....	<i>Cr⁺</i>	1	3	400	6.37	
5435.80....	<i>Fe⁺-Ni</i>	1	3	350	5.49	5503.44....	<i>Fe⁺</i>	0 ²	0	300	.....
5436.32....	<i>Fe</i>	1	1	350	6.64	5503.98....	<i>Ti-Ni</i>	1 ²	1	300	4.81	
5436.63....	<i>Fe</i>	1	1	350	4.54	5505.84....	<i>Mn</i>	1	3	350	4.41	
5437.20....	<i>Fe</i>	— 1	0	300	6.56	5506.81....	<i>Fe</i>	5	8	800	3.23	
5441.32....	<i>Fe</i>	1	1	300	6.56	5508.56....	<i>Cr⁺</i>	1 ²	3d	400	6.38	
5444.56....	<i>Co</i>	— 1	2	300	6.32	5509.96....	<i>Y⁺-Ni</i>	2 ²	7d	500	3.23	
5445.03....	<i>Fe</i>	4	5	400	6.63	5510.62....	<i>Cr⁺</i>	1 ²	2	400	6.05	
5446.86....	<i>Fe-Ti</i>	8 ²	12d	800	3.25	5512.27....	<i>Fe</i>	1	1	350	6.59	
5448.40....	<i>Fe</i>	— 1	1	300	.....	5512.52....	<i>Ti</i>	2	4	400	3.69
5451.07....	<i>Nd⁺</i>	— 2	1	300	.....	5513.00....	<i>Ca</i>	4	3	400	5.16
5452.06....	<i>Ti⁺-Fe</i>	— 1	1	300	4.90	5514.29....	<i>Ti</i>	2	4	400	3.66	
5453.18....	<i>Ni</i>	— 1	0	300	6.33	5514.57....	<i>Ti</i>	2	4	400	3.67	
5453.98....	<i>Ti⁺-Fe</i>	— 1	0	300	3.82	5516.74....	<i>Mn</i>	1 ²	2	350	4.41	
5454.60....	<i>Co</i>	— 1	0	300	6.32	5517.05....	<i>Fe</i>	0	0	300	6.43	
5455.59....	<i>Fe</i>	6 ²	12	800	3.27	5517.56....	.....	— 1	0	300	.....
5457.36....	<i>Mn</i>	0 ³	0	300	4.42	5519.60....	<i>Fe</i>	0	0d	300	.....

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
5520.70....	<i>Sc</i>	0 ²	0	300	4.09	5596.19....	<i>C₂</i>	— 2	0d	300	...
5521.18....	<i>Fe-</i>	0 ²	0	300	5.25	5598.43....	<i>Ca-Fe</i>	6 ²	8d	800	4.71
5521.64....	<i>Y⁺</i>	— 1	2	350	3.97	5599.99....	<i>Ni</i>	0	0	300	6.28
5522.45....	<i>Fe</i>	2	2	350	6.43	5600.24....	<i>Fe</i>	0	3d	400	5.82
5525.61....	<i>Fe</i>	2	3	400	6.45	5601.31....	<i>Ca-Ce⁺</i>	3	5d	500	4.72
5526.90....	<i>Sc⁺</i>	3	15	800	3.99	5602.92....	<i>Fe-Ca</i>	7 ²	8	800	5.62
5527.60....	<i>Y-Ti</i>	— 2	0	300	3.63	5603.73....	<i>C₂</i>	— 1	1	300	...
5528.41....	<i>Mg</i>	8	9	600	6.56	5605.78....	<i>C₂</i>	— 1	1	300	...
5529.09....	<i>Fe</i>	1 ²	0d	300	5.86	5607.65....	<i>Fe-C₂</i>	— 1	0	300	6.34
5530.80....	<i>Co</i>	— 1	2	400	3.93	5610.14....	<i>Ce⁺-C₂</i>	— 1 ²	1d	300	2.77
5532.00....	<i>Fe</i>	— 1	1	400	7.12	5612.43....	<i>C₂</i>	— 1 ²	0	300	...
5532.85....	<i>Fe-</i>	2 ²	2	400	5.79	5614.74....	<i>Ni</i>	1	1	300	6.33
5534.86....	<i>Fe⁺</i>	2	15	800	5.46	5615.29....	<i>Fe</i>	2	2	350	4.77
5535.41....	<i>Fe-Mn</i>	3 ²	2d	350	5.47	5615.65....	<i>Fe</i>	6	12	800	5.52
5537.75....	<i>Mn</i>	0 ²	2d	350	4.41	5617.23....	<i>Fe-</i>	1 ²	0	300	5.43
5538.51....	<i>Fe</i>	1	1	350	5.85	5618.66....	<i>Fe</i>	1	0	300	6.39
5539.26....	<i>Fe</i>	0	0	350	5.85	5619.64....	<i>Fe</i>	0	0	300	6.56
5540.09....	<i>Sr-C₂</i>	— 1 ²	1	350	4.48	5620.53....	<i>Fe</i>	0	1	300	6.33
5540.75....	<i>C₂†††</i>	— 2	1	300	...	5622.99....	<i>C₂</i>	0	1	300	...
5543.22....	<i>Fe</i>	2	4	400	5.91	5624.03....	<i>Fe</i>	1	1	350	6.56
5544.00....	<i>Fe</i>	2	2	400	6.43	5624.55....	<i>Fe</i>	4	6	600	5.60
5544.66....	<i>Y⁺</i>	— 2	1	350	3.96	5625.40....	<i>Ni⁻</i>	1 ²	2d	400	6.27
5546.56....	<i>Fe</i>	2	2	350	6.58	5627.61....	<i>V</i>	— 1	0	300	3.27
5547.01....	<i>Fe</i>	1	1	300	6.42	5627.99....	<i>C₂</i>	— 2 ²	0	300	...
5549.83....	<i>Fe</i>	0 ²	0	300	5.90	5628.49....	<i>Cr-Ni</i>	0 ²	0d	300	5.60
5551.96....	<i>Mn</i>	— 2	1	300	...	5631.86....	<i>C₂</i>	0 ³	0d	300	...
5552.24....	<i>Sc⁺</i>	— 2	0	300	3.67	5633.96....	<i>Fe</i>	3	2	350	7.16
5553.61....	<i>Fe-Ni</i>	2 ²	2	350	6.64	5634.86....	<i>C₂</i>	— 2 ²	0	300	...
5554.92....	<i>Fe</i>	3	5	600	6.75	5635.22....	<i>C₂|||</i>	— 2	1d	300	...
5557.92....	<i>Fe-</i>	1 ²	2	350	6.67	5635.80....	<i>Fe</i>	1	1	300	6.43
5558.79....	<i>Co-V</i>	— 2	0d	300	5.73	5637.25....	<i>Ni⁻</i>	2 ²	2d	350	6.26
5560.17....	<i>Fe</i>	2	2	350	6.64	5638.28....	<i>Fe</i>	3	2	350	6.39
5561.21....	.....	— 1	0	300	...	5640.26....	.....	0	0	300	...
5562.75....	<i>Fe</i>	2	3	400	6.63	5640.93....	<i>Sc⁺</i>	1	5	600	3.68
5563.59....	<i>Fe</i>	3	5	400	6.39	5641.45....	<i>Fe</i>	2	2	350	6.43
5565.48....	<i>Ti</i>	— 1	0	300	4.44	5642.82....	<i>Ni-Fe</i>	1 ³	0d	300	6.33
5565.71....	<i>Fe</i>	3	7	600	6.81	5644.10....	<i>Ti</i>	0	4d	400	4.44
5566.11....	<i>Cr⁺</i>	0	0	300	6.11	5645.65....	<i>Si</i>	1	0	300	7.09
5567.37....	<i>Fe</i>	2	4	400	4.81	5646.69....	<i>Fe</i>	— 1	0	300	6.43
5568.88....	<i>Fe</i>	— 1	0	300	5.84	5647.23....	<i>Co</i>	— 1	1	300	4.46
5569.69....	<i>Fe</i>	6	8	800	5.62	5648.64....	<i>Ti</i>	— 1	1	300	4.67
5572.87....	<i>Fe-</i>	7 ²	10	800	5.60	5649.44....	<i>Cr</i>	— 1	0	300	6.01
5573.11....	<i>Fe</i>	1	0	300	6.39	5649.86....	<i>Fe-Ni</i>	2 ²	2	400	5.80
5574.92....	.....	— 2	1	300	...	5650.65....	<i>Fe</i>	1	1	300	7.25
5576.08....	<i>Fe</i>	4	7	600	5.63	5651.45....	<i>Fe</i>	0	1	300	6.64
5577.04....	<i>Fe</i>	— 1	0d	300	7.22	5652.37....	<i>Fe</i>	1	1	300	6.43
5578.69....	<i>Ni</i>	1	4	500	3.88	5653.88....	<i>Fe</i>	1	0	300	6.55
5582.03....	<i>Ca</i>	4	3	500	4.72	5655.17....	<i>Fe</i>	1	1	300	7.22
5584.42....	<i>V-C₂</i>	— 2	1	350	3.27	5655.52....	<i>Fe</i>	2	5	500	6.42
5584.78....	<i>Fe-C₂</i>	0	2	350	5.77	5657.84....	<i>Sc⁺</i>	2	10	800	3.68
5585.60....	<i>C₂§§§</i>	— 2	2	350	...	5658.29....	<i>Sc⁺</i>	0	5	800	3.67
5586.83....	<i>Fe</i>	7	9	800	5.56	5658.67....	<i>Fe</i>	6 ³	5	800	5.56
5587.59....	<i>Fe</i>	0	1	300	6.33	5659.60....	.....	0	0	300	...
5587.86....	<i>Ni</i>	1	5	500	4.14	5660.70....	<i>Fe-</i>	1 ²	1d	300	5.80
5588.74....	<i>Ca</i>	6	8	800	4.72	5661.35....	<i>Fe</i>	0	0	300	6.45
5589.38....	<i>Ni</i>	0	1	300	6.09	5662.16....	<i>Ti</i>	0	0	300	4.49
5590.10....	<i>Ca</i>	3	2	400	4.72	5662.50....	<i>Fe</i>	4	3	400	6.34
5590.85....	<i>Co</i>	— 1 ³	1	300	4.24	5662.93....	<i>Y⁺-Ti</i>	1	7	800	4.12
5592.28....	<i>Ni</i>	1	7	500	4.15	5664.02....	<i>Ni-Cr</i>	1	2	300	6.70
5593.66....	<i>Ni</i>	0	2d	400	6.09	5665.58....	<i>Si</i>	1	1	300	7.08
5594.57....	<i>Ca-Fe</i>	5 ²	8	800	4.72	5666.67....	<i>Ni</i>	0	1	300	6.27

††† Third head of second band.

§§§ Second head of second band.

|||| First head of second band.

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
5667.20....	<i>Sc</i> ⁺	0	6	600	3.67	5763.03....	<i>Fe</i>	7 ²	6	400	6.33
5667.49....	<i>Fe</i>	2	2	300	4.77	5766.34....	<i>Ti</i>	0	1	300	5.42
5669.02....	<i>Sc</i> ⁺	1	6	600	3.67	5769.19....	<i>Ce</i> ⁺ - <i>La</i> ⁺	1 ²	1d	300	2.98
5669.83....	<i>Ni</i>	1 ²	1d	350	6.42	5772.18....	<i>Si</i>	3	2	400	7.20
5670.78....	<i>V</i>	0	0	300	3.25	5774.04....	<i>Ti</i>	0	1	300	5.43
5671.89....	<i>Sc</i>	0	2	350	3.62	5775.14....	<i>Fe</i>	4	3	350	6.34
5675.43....	<i>Ti</i>	2	3	350	4.47	5778.42....	<i>Fe</i>	1	2	350	4.71
5679.04....	<i>Fe</i>	3	4	350	6.81	5780.65....	<i>Fe-Ti</i>	3 ³	2d	350	5.36
5682.18....	<i>Ni</i>	2	2	350	6.26	5782.17....	<i>Cu</i>	6 ²	5	400	3.77
5682.65....	<i>Na</i>	5	3	350	4.27	5783.06....	<i>Cr</i>	2	2	300	5.44
5684.23....	<i>Sc</i> ⁺	1	5	600	5.67	5783.90....	<i>Cr</i>	3	2	300	5.44
5684.49....	<i>Si</i>	3	2	300	7.10	5784.67....	<i>Fe</i>	1	0	300	5.52
5685.46....	—	1	0	300	.....	5785.11....	<i>Cr-Fe</i> ⁺	5 ²	4d	400	5.44
5686.53....	<i>Fe</i>	3	4	350	6.70	5785.88....	<i>Cr-Ti</i>	2 ²	2	350	5.44
5688.23....	<i>Na</i>	6	3	350	4.27	5787.91....	<i>Cr</i>	4	3	350	5.44
5689.48....	<i>Ti</i>	0	0	300	4.46	5791.02....	<i>Cr-Fe</i>	7 ²	5	400	5.44
5690.50....	<i>Si</i>	3	1	300	7.08	5793.13....	<i>Si</i>	3	2	350	7.04
5691.45....	<i>Fe-Ni</i>	2	2	300	6.37	5793.93....	<i>Fe</i>	2	1	300	6.33
5693.69....	<i>Fe</i>	3	2	350	.....	5798.00....	<i>Fe-Si</i>	7 ²	4d	400	6.04
5694.89....	<i>Ni-Cr</i>	3 ²	4	350	6.24	5804.28....	<i>Fe-Ti</i>	2 ³	2d	350	5.99
5696.11....	<i>Fe</i> ⁺	0	1	300	4.80	5805.27....	<i>Ni</i>	4	3	350	6.28
5698.33....	<i>Cr-Fe</i>	1	4	400	6.03	5806.70....	<i>Fe</i>	5	3	350	6.71
5698.58....	<i>V</i>	1	2	400	3.23	5809.27....	<i>Fe</i>	4	3	350	5.99
5700.23....	<i>Sc-Ni</i>	1 ²	1	300	3.59	5811.93....	<i>Fe</i>	0	1	300	6.25
5701.12....	<i>Si</i>	1	1	350	7.07	5814.85....	<i>Fe</i>	1	0	300	6.39
5701.50....	<i>Fe</i>	4	4	500	4.71	5816.35....	<i>Fe</i>	5	4	400	6.65
5702.38....	<i>Cr</i>	0	1	300	5.60	5827.86....	<i>Fe</i>	0	1	300	5.39
5703.57....	<i>V</i>	1	2	400	3.21	5831.64....	<i>Ni</i>	1	0	300	6.27
5704.74....	<i>Fe</i>	0	1	300	.....	5834.04....	<i>Fe</i>	0	0	300	4.71
5705.41....	<i>Fe</i>	1	1	300	6.45	5838.30....	<i>Fe-Ce</i> ⁺	1 ²	1	350	6.04
5706.00....	<i>Fe</i>	3	4	400	6.75	5848.16....	<i>Fe</i>	3	2	350	5.36
5706.99....	<i>Fe-V</i>	2 ²	2d	350	5.79	5849.70....	<i>Fe</i>	0	0	300	5.79
5708.10....	<i>Fe</i>	1	2	400	6.58	5852.24....	<i>Fe</i>	3	2	350	6.64
5708.41....	<i>Si</i>	3	2	400	7.09	5853.69....	<i>Ba</i> ⁺	5	15	800	2.71
5709.37....	<i>Fe</i>	5	6	500	5.52	5855.07....	<i>Fe</i>	1	1	350	6.70
5709.61....	<i>Ni</i>	5	3	400	3.83	5856.13....	<i>Fe</i>	2	2	350	6.38
5711.02....	<i>Mg</i>	6	2	400	6.49	5857.51....	<i>Ca-Ni</i>	11 ²	10	800	5.03
5711.89....	<i>Fe-Ni</i>	4	5	400	6.43	5859.54....	<i>Fe</i>	5	5	500	6.64
5712.16....	<i>Fe</i>	2	2	300	5.56	5861.12....	<i>Fe</i>	0	0	350	6.37
5715.12....	<i>Ni-Fe</i>	5	5	400	6.23	5862.42....	<i>Fe</i>	6	6	600	6.63
5717.86....	<i>Fe</i>	4	5	400	6.42	5864.29....	<i>Fe</i>	0	1	350	6.39
5720.45....	<i>Ti</i>	0	0	300	4.44	5866.46....	<i>Ti</i>	3	5	400	3.17
5720.90....	<i>Fe</i>	0	0	300	6.69	5867.58....	<i>Ca</i>	2	1	350	5.02
5727.06....	<i>V</i>	2	4	400	3.23	5873.22....	<i>Fe</i>	1	1	350	6.34
5728.88....	<i>Y</i> ⁺ - <i>Fe</i> ⁺	—	1	0	300	3.99	5875.64....	<i>He</i>	100	7500	22.97
5730.90....	<i>Fe</i>	0	0	300	6.35	5881.29....	<i>Fe</i>	1	1	350	6.69
5731.73....	<i>Fe</i>	4	3	300	6.39	5883.80....	<i>Fe</i>	4	4	400	6.04
5732.33....	<i>Fe</i>	0	0	300	7.12	5889.09....	<i>Na(D</i> ₂ <i>)</i>	30	40	1500	2.10
5739.49....	<i>Ti</i>	0	0	300	4.39	5892.86....	<i>Ni</i>	4	5	400	4.07
5739.99....	<i>Ti</i>	0	0	300	4.38	5895.99....	<i>Na(D</i> ₁ <i>)</i>	20	35	1500	2.09
5741.82....	<i>Fe</i>	2	1	300	6.39	5899.36....	<i>Ti</i>	2	3	400	3.14
5747.74....	—	1	0	300	.....	5905.70....	<i>Fe</i>	4	3	400	3.72
5747.92....	<i>Fe</i>	2	1	300	6.73	5909.96....	<i>Fe</i>	1	2	350	5.29
5748.40....	<i>Ni</i>	2	2	300	3.82	5914.14....	<i>Fe</i>	4	8	500	6.67
5752.00....	<i>Fe</i>	4	3	350	6.67	5916.26....	<i>Fe</i>	3	6	500	4.53
5753.15....	<i>Fe</i>	5	5	400	6.39	5918.55....	<i>Ti</i>	0	2	350	3.15
5754.64....	<i>Ni</i>	5	5	400	4.07	5922.12....	<i>Ti</i>	0	1	350	3.13
5756.85....	<i>Fe</i>	2	1	300	.....	5927.80....	<i>Fe</i>	3	1	350	6.71
5760.34....	<i>Fe</i>	1	1	300	5.77	5929.68....	<i>Fe</i>	2	0	350	6.61
5760.86....	<i>Ni</i>	2	2	300	6.23	5930.23....	<i>Fe</i>	6	7	500	6.71
5762.40....	<i>Fe</i>	1	1	300	5.77	5934.70....	<i>Fe</i>	5	5	400	5.99

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	
5937.82	Ti	—	1	0	350	3.14	6122.28	Ca	10	15	800	3.89
5941.75	Ti	1	0	350	3.13	6125.05	Si	1	1	300	7.60	
5948.55	Si	6	2	350	7.14	6126.28	Ti	1	1	300	3.08	
5949.37	Fe	2	2	400	2.99	6127.92	Fe	3	2	300	6.14	
5952.68	Fe	4	3	400	6.04	6128.99	Ni	1	0	300	3.68	
5953.22	Ti	2	3	400	3.95	6130.15	Ni	1	0	300	6.26	
5956.73	Fe	4	4	400	2.93	6136.78	Fe	11 ²	10	800	4.45	
5958.25	Fe	1	0	350	3.03	6137.68	Fe	7	10	800	4.59	
5965.84	Ti	2	4	400	3.94	6141.77	Ba ⁺ -Fe	7	40	1500	2.71	
5975.31	Fe	3	2	350	6.12	6142.50	Si	1	2	400	7.60	
5976.83	Fe	4	2	350	5.99	6145.01	Si	2	2	400	7.60	
5978.58	Ti	2	2	350	3.93	6147.78	Fe ⁺ -Fe	5 ²	6	600	5.88	
5983.70	Fe	5	4	400	6.59	6149.24	Fe ⁺	2	6	600	5.88	
5984.82	Fe	6	5	400	6.77	6151.68	Fe	4	2	350	4.17	
5987.08	Fe	5	5	400	6.84	6154.26	Na	2	2	350	4.10	
5991.36	Fe ⁺	2	12	400	5.20	6155.22	Si	5	2	350	7.60	
5996.74	Ni	1	1	350	6.28	6156.04	Ca	—	0	300	4.52	
5997.78	Fe	3	3d	350	6.65	6157.76	Fe	5	4	400	6.06	
6003.05	Fe	6	5	400	5.92	6159.39	Fe	0	0	300	6.59	
6005.54	Fe	1	2	350	4.63	6160.68	Na	3	1	300	4.10	
6007.32	Ni	1	1	350	3.72	6161.28	Ca	4	2	300	4.52	
6008.00	Fe	4	3	400	6.69	6162.19	Ca	15	25	1000	3.89	
6008.58	Fe	6	5	400	5.92	6163.76	Ca-Fe	4 ²	3	400	4.51	
6012.21	Ni	1	0	350	.....	6165.30	Fe	2	2	400	6.13
6013.55	Mn	6	4	400	5.11	6166.44	Ca	5	3	400	4.51	
6016.68	Mn	6	4	400	5.11	6169.02	Ca	6	4	600	4.51	
6020.10	Fe	6 ²	6	400	6.64	6169.51	Ca	7	5	600	4.51	
6021.86	Mn	6	5	400	5.11	6170.50	Fe-Ni	4	4	600	6.77	
6024.09	Fe	7	6	400	6.58	6173.32	Fe	5	4	400	4.21	
6027.01	Fe	4	4	400	6.11	6175.36	Ni	3	2	400	6.07	
6039.75	V	0	0	350	3.10	6176.81	Ni	5	3	400	6.07	
6042.10	Fe	3	3	400	6.75	6180.20	Fe	5	2	400	4.71	
6053.66	Ni	0	0	350	6.26	6185.71	Fe	1	0	300	.....
6056.03	Fe	5	4	400	6.75	6186.70	Ni	2	0	300	6.08	
6062.87	Fe	0	1	300	4.20	6188.04	Fe	4	2	400	5.92	
6065.53	Fe	7	10	600	4.63	6191.13	Ni	6	4	400	3.66	
6076.91	Cr ⁺	—	1	0	350	6.09	6191.64	Fe	9	10	800	4.42
6078.47	Fe	5	4	400	6.81	6194.50	.....	0	0	350	.....
6079.05	Fe	2	3	400	6.66	6195.46	.....	0	0	350	.....
6081.44	V	0	0	350	3.08	6199.14	V	0	0	300	2.28	
6082.75	Fe	1	1	350	4.24	6200.37	Fe	6	4	400	4.59	
6084.12	Fe ⁺	0	5	400	5.21	6204.62	Ni	1	1	350	6.06	
6085.23	Ti-Fe	2	1	350	3.08	6213.38	Fe	6	6	500	4.20	
6086.29	Ni	2	0	300	6.28	6215.20	Fe-Ti	4	3	400	6.15	
6089.60	Fe	2	0	350	7.03	6216.32	V	1	1	300	2.26	
6090.20	V	2	3	400	3.10	6219.34	Fe	6	7	500	4.17	
6091.18	Ti	0	0	350	4.28	6220.80	Fe	0	0	300	5.85	
6093.70	Fe	2	1	350	6.61	6224.02	Ni	1	1	300	6.07	
6094.41	Fe	1	1	350	6.66	6226.80	Fe	1	1	300	5.85	
6096.65	Fe	3	2	350	5.99	6229.19	Fe	1	1	300	4.81	
6102.15	Fe	6	5	400	6.84	6230.76	Fe-V	8	10	800	4.53	
6102.71	Ca	9	10	800	3.89	6232.70	Fe	4	3	400	5.62	
6103.25	Fe	5 ²	3	400	6.84	6237.40	Si	3	1	400	7.57	
6105.14	Fe	0	0	350	6.55	6238.45	Fe ⁺	2	6	600	5.85	
6108.15	Ni	6	4	400	3.69	6239.92	Fe ⁺	—1	2	400	5.85	
6111.10	Ni	2	1	350	6.09	6240.70	Fe	3	2	300	4.19	
6111.66	V	0	1	350	3.06	6243.12	V	1	1	300	2.28	
6112.94	.....	0	0	350	.....	6243.79	Si	2	2	300	7.57
6113.33	Fe ⁺	0	0	350	5.23	6244.46	Si-Sc	2	1	300	7.57	
6116.17	Ni-Fe	4 ²	2	400	6.09	6245.64	Sc ⁺	1	4	400	3.48	
6119.60	V-Ni	2 ²	1	350	3.08	6246.27	Fe	7	6	500	5.56	

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
6247.56....	<i>Fe</i> ⁺	2	10	800	5.85	6439.04....	<i>Ca</i>	8	15	800	4.43
6252.51....	<i>Fe</i>	7	8	600	4.37	6449.83....	<i>Ca</i>	6	6	600	4.42
6254.28....	<i>Fe-Si</i>	6 ²	7	600	4.24	6455.62....	<i>Ca</i>	2	2	400	4.42
6256.43....	<i>Fe-Ni</i>	6	6	600	4.42	6456.44....	<i>Fe</i> ⁺	3	20	800	5.80
6258.11....	<i>Ti</i>	3	2	400	3.41	6462.58....	<i>Ca-Fe</i>	8 ²	12	800	4.42
6258.75....	<i>Ti</i>	3	3	400	3.43	6469.26....	<i>Fe</i>	2	3	400	6.72
6261.09....	<i>Ti</i>	2	1	400	3.39	6471.63....	<i>Ca</i>	5	3	400	4.42
6265.22....	<i>Fe</i>	5	6	500	4.14	6475.58....	<i>Fe</i>	2	2	400	4.45
6270.21....	<i>Fe</i>	3	2	400	4.81	6481.83....	<i>Fe</i>	3	3	400	4.17
6271.29....	<i>Fe</i>	0	0	300	5.29	6482.76....	<i>Ni</i>	1	2	400	3.83
6279.70....	<i>Sc</i> ⁺	0	3	500	3.46	6491.65....	<i>Ti</i> ⁺	1	6	800	3.95
6280.66....	<i>Fe</i>	3	6	600	2.82	6493.74....	<i>Ca</i>	6	6	800	4.41
6286.15....		0	0	300	.....	6494.95....	<i>Fe</i>	8	10	800	4.29
6291.03....	<i>Fe</i>	3	3	400	6.67	6496.40....	<i>Fe</i>	2	2	400	6.67
6297.85....	<i>Fe</i>	5	5	500	4.17	6496.88....	<i>Ba</i> ⁺	4	30	1500	2.50
6300.23....		1	1	300	.....	6499.00....	<i>Fe</i>	1	1	300	2.85
6301.48....	<i>Fe</i>	7	6	500	5.60	6499.68....	<i>Ca</i>	4	2	300	4.41
6302.46....	<i>Fe</i>	5	4	500	5.63	6501.69....	<i>Fe</i>	0	0	300	.....
6311.50....	<i>Fe</i>	1	1	350	4.77	6516.10....	<i>Fe</i> ⁺	2	15	800	4.77
6314.73....	<i>Ni</i>	4	4	400	3.88	6518.40....	<i>Fe</i>	2	3	400	4.71
6315.34....	<i>Fe</i>	3	3	400	6.08	6527.22....	<i>Si</i>	1	0	400	7.74
6315.85....	<i>Fe</i>	1	1	400	6.01	6532.89....	<i>Ni</i>	0	0	300	3.82
6318.00....	<i>Fe</i>	6	7	600	4.40	6546.24....	<i>Fe-Ti</i>	6	4	400	4.63
6318.70....	<i>Mg</i>	1	3	350	7.04	6556.09....	<i>Ti</i>	1	1	400	3.34
6320.85....	<i>Sc</i> ⁺	1	2	400	3.45	6559.59....	<i>Ti</i> ⁺	0	1	400	3.92
6322.74....	<i>Fe</i>	5	5	400	4.53	6569.28....	<i>Fe</i>	4	3	400	6.59
6327.67....	<i>Ni</i>	2	2	350	3.62	6562.80....	<i>Ha</i>	40	200	12000	12.04
6330.10....	<i>Cr</i>	2	0	300	2.89	6572.80....	<i>Ce</i>	1	1	400	1.88
6330.85....	<i>Fe</i>	2	2	350	6.66	6574.24....	<i>Fe</i>	1	1	400	2.86
6335.28....	<i>Fe</i>	6	7	500	4.14	6575.05....	<i>Fe</i>	2	3	400	4.45
6336.90....	<i>Fe</i>	7	8	500	5.62	6581.23....	<i>Fe</i>	0	0	350	3.35
6338.89....	<i>Fe</i>	2	2	400	6.72	6586.33....	<i>Ni</i>	1	0	350	3.82
6339.12....	<i>Ni</i>	2	2	400	6.08	6592.93....	<i>Fe</i>	6	5	500	4.59
6344.14....	<i>Fe</i>	4	3	400	4.37	6593.85....	<i>Fe</i>	4	4	400	4.29
6347.05....	<i>Si</i> ⁺	2	10	800	10.03	6597.58....	<i>Fe</i>	2	0	350	6.65
6355.04....	<i>Fe</i>	4	5	500	4.77	6598.62....	<i>Ni</i>	0	0	350	6.09
6358.66....	<i>Fe</i>	6	6	600	2.80	6604.58....	<i>Sc</i> ⁺	1	3	400	3.22
6362.88....	<i>Cr-Fe</i>	2	2	350	2.88	6609.18....	<i>Fe</i>	3	2	400	4.42
6364.44....	<i>Fe-Ni</i>	2 ²	2d	350	6.71	6625.05....	<i>Fe</i>	1	0	350	2.87
6366.55....	<i>Ni</i>	0	1	300	6.09	6627.57....	<i>Fe</i>	3	0	350	6.39
6369.53....	<i>Fe</i> ⁺	0	5	500	4.82	6633.79....	<i>Fe</i>	3 ³	2	400	6.40
6371.36....	<i>Si</i> ^{+-Fe}	1	7	800	10.02	6643.68....	<i>Ni</i>	7	5	400	3.53
6378.26....	<i>Ni</i>	7	0	350	6.07	6663.50....	<i>Fe</i>	6 ²	3	400	4.27
6380.75....	<i>Fe</i>	4	2	400	6.10	6678.10....	<i>He-Fe</i>	8	30d	2200	22.97
6383.68....	<i>Fe</i> ⁺	0	3	400	.....	6696.04....	<i>Al</i>	2	2	400	4.97
6384.68....	<i>Ni-Mn</i>	1	0	300	6.07	6703.60....	<i>Fe</i>	3	2	300	4.59
6385.74....	<i>Fe</i>	0	0	300	6.65	6705.10....	<i>Fe</i>	4	3	300	6.43
6392.54....	<i>Fe</i>	0	0	300	4.20	6715.40....	<i>Fe-Cr</i>	2	1	350	6.43
6393.68....	<i>Fe</i>	7	10	800	4.35	6717.75....	<i>Ca</i>	8	3	400	4.53
6400.02....	<i>Fe</i>	10 ²	12	800	5.52	6726.68....	<i>Fe</i>	3	2	300	6.42
6407.28....	<i>Fe</i> ⁺	0	3	500	5.80	6733.18....	<i>Fe</i>	2	0	300	6.45
6408.00....	<i>Fe</i>	5	6	600	5.60	6750.14....	<i>Fe</i>	5	2	400	4.24
6411.72....	<i>Fe</i>	7	8	600	5.56	6752.76....	<i>Fe</i>	3	0	300	6.45
6414.82....	<i>Ni</i>	2 ²	2	400	6.06	6810.27....	<i>Fe</i>	4	2	350	6.40
6416.98....	<i>Fe</i> ⁺	1	4	600	5.80	6820.38....	<i>Fe</i>	4	1	300	6.43
6419.94....	<i>Fe</i>	4	3	600	6.64	6828.60....	<i>Fe</i>	4	1	300	6.43
6421.45....	<i>Fe</i>	7	6	600	4.19	6841.35....	<i>Fe</i>	4	2	400	6.39
6430.88....	<i>Fe</i>	7	8	800	4.09	6843.66....	<i>Fe</i>	4	2	400	6.33
6432.63....	<i>Fe</i> ⁺	1	10	800	4.80	6855.17....	<i>Fe</i>	5	2	400	6.34
6433.46....	<i>Fe</i>	0	0	350	6.10	6914.56....	<i>Ni</i>	4	0	300	3.73
6436.45....	<i>Fe</i>	0	2	400	6.09	6945.21....	<i>Fe</i>	4	2	400	4.19

TABLE 1—Continued

Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.	Chromo-sphere	Element	Sun	Flash	Height in Km	High E.P.
6951.25....	<i>Fe</i>	6	2	350	6.31	7748.59....	<i>Fe-Ni</i>	15 ²	2	400	4.53
6978.86....	<i>Fe</i>	4	1	350	4.24	7771.95....	<i>O</i>	8	45	6000	10.69
6999.89....	<i>Fe</i>	4	1	300	5.85	7774.18....	<i>O</i>	6	30	6000	10.69
7016.07....	<i>Fe</i>	2	1	350	4.17	7775.39....	<i>O</i>	5	25	6000	10.69
7016.45....	<i>Fe</i>	4	1	350	5.90	8213.04....	<i>Mg</i>	4	2	400	7.23
7022.96....	<i>Fe</i>	4	1	350	5.93	8250.0....	<i>H</i> 40	....	0	500	13.53
7038.22....	<i>Fe</i>	5	1	350	5.95	8252.3....	<i>H</i> 39	....	0	500	13.53
7065.18....	<i>He</i>	....	60	7500	22.62	8255.0....	<i>H</i> 38	....	0	500	13.53
7068.43....	<i>Fe</i>	7	2	350	5.80	8257.9....	<i>H</i> 37	....	1	600	13.53
7090.39....	<i>Fe</i>	7	1	350	5.95	8260.9....	<i>H</i> 36	....	1	600	13.53
7122.21....	<i>Ni</i>	10	2	350	5.26	8264.29....	<i>H</i> 35	....	1	700	13.53
7130.93....	<i>Fe</i>	9	1	350	5.93	8267.95....	<i>H</i> 34	....	1	800	13.53
7148.14....	<i>Ca</i>	12	2	300	4.42	8271.95....	<i>H</i> 33	....	2	800	13.53
7164.43....	<i>Fe</i>	12	2	350	5.90	8276.33....	<i>H</i> 32	....	2	900	13.53
7165.57....	<i>Si</i>	5	1	300	7.57	8381.14....	<i>H</i> 31	....	2	1000	13.53
7187.36....	<i>Fe</i>	15	2	350	5.80	8286.43....	<i>H</i> 30	....	2	1000	13.52
7197.02....	<i>Ni</i>	3	0	300	3.64	8292.31....	<i>H</i> 29	....	3	1200	13.52
7202.21....	<i>Ca</i>	5	1	300	4.41	8298.84....	<i>H</i> 28	....	4	1500	13.52
7207.40....	<i>Fe</i>	5	2	350	5.85	8306.11....	<i>H</i> 27	....	5	1600	13.52
7281.35....	<i>He</i>	....	5	2500	22.82	8314.27....	<i>H</i> 26	....	6	1800	13.52
7307.96....	<i>Fe</i> ⁺ - <i>Fe</i>	3	3	400	5.56	8323.43....	<i>H</i> 25	....	6	2000	13.52
7310.20....	<i>Fe</i> ⁺	2	2	400	5.56	8327.06....	<i>Fe</i>	6	2	400	3.67
7320.69....	<i>Fe</i> ⁺ - <i>Fe</i>	4	2	400	5.56	8333.79....	<i>H</i> 24	....	8	1800	13.52
7326.16....	<i>Ca</i>	9	3	400	4.60	8345.55....	<i>H</i> 23	....	10	2000	13.51
7389.39....	<i>Fe</i>	7	2	350	5.95	8346.13....	<i>Mg</i>	5	2	500	7.40
7393.61....	<i>Ni</i>	9	2	300	5.26	8359.01....	<i>H</i> 22	....	12	2500	13.51
7400.19....	<i>Cr</i>	9	1	300	4.55	8374.49....	<i>H</i> 21	....	15	2500	13.51
7405.80....	<i>Si</i>	9	2	350	7.26	8387.78....	<i>Fe</i>	9	2	400	3.64
7409.10....	<i>Si</i>	7	2	350	7.26	8392.41....	<i>H</i> 20	....	18	2500	13.51
7411.16....	<i>Fe</i>	6	1	300	5.93	8413.33....	<i>H</i> 19	....	20	3000	13.50
7415.96....	<i>Si</i>	8	2	350	7.26	8437.96....	<i>H</i> 18	....	18	3500	13.50
7422.29....	<i>Ni</i>	6	1	300	5.28	8446.33....	<i>O</i>	....	25	3000	10.94
7423.51....	<i>Si</i>	8	2	350	7.26	8446.76....	<i>O</i>	....	25	3000	10.94
7445.76....	<i>Fe</i>	8	2	350	5.90	8467.27....	<i>H</i> 17	....	20	4500	13.49
7462.34....	<i>Cr</i> - <i>Fe</i> ⁺	10	3	400	4.55	8498.06....	<i>Ca</i> ⁺	140	10000	3.14
7495.08....	<i>Fe</i>	9	2	300	5.85	8502.50....	<i>H</i> 16	....	....	....	13.49
7511.03....	<i>Fe</i>	10	3	350	5.80	8542.14....	<i>Ca</i> ⁺	160	12000	3.11
7555.61....	<i>Ni</i>	6	2	300	5.46	8545.39....	<i>H</i> 15	....	....	....	13.48
7586.03....	<i>Fe</i>	10	2	300	5.92	8598.40....	<i>H</i> 14	....	25	6000	13.47
7664.87....	<i>K</i>	12	2	400	1.61	8662.17....	<i>Ca</i> ⁺	180	12000	3.14
7698.98....	<i>K</i>	10	2	400	1.61	8665.03....	<i>H</i> 13	....	....	....	13.46
7711.74....	<i>Fe</i> ⁺	4	2	500	5.49	8736.04....	<i>Mg</i>	....	2	500	7.33
7714.31....	<i>Ni</i>	8	1	300	3.53	8750.47....	<i>H</i> 12	....	25	6500	13.45
7727.62....	<i>Ni</i>	8	1	300	5.26	8806.78....	<i>Mg</i>	....	2	500	5.73
7742.62....	<i>Fe</i>	9	2	350	6.56	8862.9....	<i>H</i> 11	....	10	....	13.43