

Predicted XUV Line Intensities  
CHIANTI database - Version 11.0

Calculated with Constant pressure= 1.00e+16 (cm<sup>-3</sup> K)

2000.2 to 8342.0 Å

Number of lines: 436

Minimum intensity = 32.9000

Units are: erg cm-2 sr-1 s-1

Lines marked with a "s" are satellite lines from autoionizing levels.

Lines marked with a \* do not have observed energy levels  
and have approximate wavelengths.

Calculated: Tue Dec 3 11:05:44 2024

Ionization Fractions file: temp.ioneq  
ionization equilibrium filename: temp.ioneq  
the following ions have advanced models:

c\_1 included in density effects model  
c\_2 included in density effects model  
c\_3 included in density effects model  
c\_4 included in density effects model  
c\_5 included in density effects model  
n\_1 included in density effects model  
n\_2 included in density effects model  
n\_3 included in density effects model  
n\_4 included in density effects model  
n\_5 included in density effects model  
n\_6 included in density effects model  
o\_1 included in density effects model  
o\_2 included in density effects model  
o\_3 included in density effects model  
o\_4 included in density effects model  
o\_5 included in density effects model  
o\_6 included in density effects model  
o\_7 included in density effects model  
ne\_1 included in density effects model  
ne\_2 included in density effects model  
ne\_3 included in density effects model  
ne\_4 included in density effects model  
ne\_5 included in density effects model  
ne\_6 included in density effects model  
ne\_7 included in density effects model  
ne\_8 included in density effects model  
ne\_9 included in density effects model  
mg\_1 included in density effects model

mg\_2 included in density effects model  
mg\_3 included in density effects model  
mg\_4 included in density effects model  
mg\_5 included in density effects model  
mg\_6 included in density effects model  
mg\_7 included in density effects model  
mg\_8 included in density effects model  
mg\_9 included in density effects model  
mg\_10 included in density effects model  
mg\_11 included in density effects model  
si\_1 included in density effects model  
si\_2 included in density effects model  
si\_3 included in density effects model  
si\_4 included in density effects model  
si\_5 included in density effects model  
si\_6 included in density effects model  
si\_7 included in density effects model  
si\_8 included in density effects model  
si\_9 included in density effects model  
si\_10 included in density effects model  
si\_11 included in density effects model  
si\_12 included in density effects model  
si\_13 included in density effects model  
s\_1 included in density effects model  
s\_2 included in density effects model  
s\_3 included in density effects model  
s\_4 included in density effects model  
s\_5 included in density effects model  
s\_6 included in density effects model  
s\_7 included in density effects model  
s\_8 included in density effects model  
s\_9 included in density effects model  
s\_10 included in density effects model  
s\_11 included in density effects model  
s\_12 included in density effects model  
s\_13 included in density effects model  
s\_14 included in density effects model  
s\_15 included in density effects model

Model used constant pressure= 1.00000e+16

Produced as part of the CHIANTI atomic data base collaboration

Created on Tue Dec 3 11:03:31 2024

Elemental Abundance file: sun\_photospheric\_2021\_asplund.abund  
created for the CHIANTI atomic database by Enrico Landi, 21-Jul-2022

abundances: Asplund, M., Amarsi, A.M., & Grevesse, N. 2021, A&A, 653, A141

comment: This compilation upgrades Asplund et al. (2009) with the advances in

photospheric modeling and atomic data in the last decade. Notably, it preserves a low O abundance but increases Ne/O to 0.24, in line with Young 2018 and Landi & Testa 2017 determinations in the solar atmosphere.

Minimum abundance = 3.63078e-08

Differential Emission Measure file: flare\_ext.dem

filename: flare.dem

dem: Dere, K.P., Cook, J.W., 1979, ApJ, 229, 772

comment: composite of August 9 1553 and 1554 UT data of an M2 X-ray class flare

comment: modifies at high temperature (7.3 to 8.0) by G.Del Zanna to calculate

the emissivities of the hottest ions.

produced as part of the Arcetri/Cambridge/NRL 'CHIANTI' atomic data base collaboration

K.P.Dere and G. Del Zanna - Aug 2002

Calculation performed with population lookup tables.

Table 1: *Line List*

Ion	$\lambda$ (Å)	Transition	$T_{\max}$	Int
Fe III	2000.2240	$3s^2 3p^6 3d^5 4s^3 I_5 - 3s^2 3p^6 3d^5 4p^3 K_6$	4.55	5.37e+02
Fe III	2001.8101	$3s^2 3p^6 3d^5 4s^5 P_3 - 3s^2 3p^6 3d^5 4p^5 D_2$	4.50	8.75e+01
Fe III	2004.1530	$3s^2 3p^6 3d^5 4s^5 P_2 - 3s^2 3p^6 3d^5 4p^5 D_2$	4.50	3.07e+02
Fe III	2005.7360	$3s^2 3p^6 3d^5 4s^5 P_2 - 3s^2 3p^6 3d^5 4p^5 D_1$	4.50	1.11e+02
Fe III	2006.3600	$3s^2 3p^6 3d^5 4s^3 G_4 - 3s^2 3p^6 3d^5 4p^3 G_4$	4.55	3.75e+01
Fe III	2006.9160	$3s^2 3p^6 3d^5 4s^5 P_1 - 3s^2 3p^6 3d^5 4p^5 D_2$	4.50	1.64e+02
Fe III	2008.5040	$3s^2 3p^6 3d^5 4s^5 P_1 - 3s^2 3p^6 3d^5 4p^5 D_1$	4.50	2.41e+02
Fe III	2009.1180	$3s^2 3p^6 3d^5 4s^5 P_1 - 3s^2 3p^6 3d^5 4p^5 D_0$	4.50	1.20e+02
Fe III	2013.3280	$3s^2 3p^6 3d^5 4s^3 D_2 - 3s^2 3p^6 3d^5 4p^3 F_3$	4.55	6.68e+01
Fe III	2017.3571	$3s^2 3p^6 3d^5 4s^3 H_5 - 3s^2 3p^6 3d^5 4p^3 H_6$	4.55	5.32e+01
Fe III	2023.4189	$3s^2 3p^6 3d^5 4s^5 F_3 - 3s^2 3p^6 3d^5 4p^3 H_4$	4.55	3.60e+01
Fe III	2024.1650	$3s^2 3p^6 3d^5 4s^5 F_4 - 3s^2 3p^6 3d^5 4p^3 H_5$	4.55	3.32e+01
Fe III	2026.2200	$3s^2 3p^6 3d^5 4s^1 D_2 - 3s^2 3p^6 3d^5 4p^1 F_3$	4.55	1.62e+02
Fe III	2026.6960	$3s^2 3p^6 3d^5 4s^3 H_6 - 3s^2 3p^6 3d^5 4p^3 H_6$	4.55	4.17e+01
Fe III	2033.7111	$3s^2 3p^6 3d^5 4s^3 P_2 - 3s^2 3p^6 3d^5 4p^3 D_2$	4.55	3.58e+01
Fe III	2035.6440	$3s^2 3p^6 3d^5 4s^5 F_5 - 3s^2 3p^6 3d^5 4p^3 H_6$	4.55	9.80e+01
Fe III	2036.5770	$3s^2 3p^6 3d^5 4s^3 P_2 - 3s^2 3p^6 3d^5 4p^3 D_3$	4.55	1.75e+02
Fe III	2036.6680	$3s^2 3p^6 3d^5 4s^3 H_4 - 3s^2 3p^6 3d^5 4p^3 I_5$	4.55	1.33e+02
Fe III	2037.8101	$3s^2 3p^6 3d^5 4s^3 P_1 - 3s^2 3p^6 3d^5 4p^3 D_1$	4.55	3.62e+01
Fe III	2038.7490	$3s^2 3p^6 3d^5 4s^3 P_1 - 3s^2 3p^6 3d^5 4p^3 D_2$	4.55	1.10e+02
Fe III	2040.1840	$3s^2 3p^6 3d^5 4s^1 H_5 - 3s^2 3p^6 3d^5 4p^1 I_6$	4.55	4.70e+01
Fe III	2041.4250	$3s^2 3p^6 3d^5 4s^3 P_0 - 3s^2 3p^6 3d^5 4p^3 D_1$	4.55	4.50e+01
Fe III	2042.8970	$3s^2 3p^6 3d^5 4s^3 D_1 - 3s^2 3p^6 3d^5 4p^3 F_2$	4.55	9.19e+01
Fe IX	2043.0090	$3s^2 3p^5 3d^3 P_2 - 3s^2 3p^5 3d^3 D_2$	5.95	5.46e+01
Fe III	2046.6010	$3s^2 3p^6 3d^5 4s^5 D_4 - 3s^2 3p^6 3d^5 4p^3 H_5$	4.50	1.33e+02
Fe III	2054.1809	$3s^2 3p^6 3d^5 4s^3 D_3 - 3s^2 3p^6 3d^5 4p^3 F_3$	4.55	7.44e+01
Cr II	2056.2571	$3d^5 6S_{5/2} - 3d^4 (5D) 4p^6 P_{7/2}$	4.50	3.58e+01
Fe III	2056.5210	$3s^2 3p^6 3d^5 4s^3 F_4 - 3s^2 3p^6 3d^5 4p^3 F_4$	4.55	9.62e+01
Fe III	2057.7190	$3s^2 3p^6 3d^5 4s^3 D_1 - 3s^2 3p^6 3d^5 4p^3 F_2$	4.55	1.85e+02
Fe III	2058.8669	$3s^2 3p^6 3d^5 4s^3 D_2 - 3s^2 3p^6 3d^5 4p^3 F_2$	4.55	5.36e+01
Fe III	2059.2319	$3s^2 3p^6 3d^5 4s^1 I_6 - 3s^2 3p^6 3d^5 4p^1 K_7$	4.55	6.22e+02
Fe III	2060.3430	$3s^2 3p^6 3d^5 4s^3 D_2 - 3s^2 3p^6 3d^5 4p^3 F_3$	4.55	2.39e+02
Fe III	2062.2170	$3s^2 3p^6 3d^5 4s^5 S_2 - 3s^2 3p^6 3d^5 4p^5 P_1$	4.50	8.41e+02
Fe III	2062.2681	$3s^2 3p^6 3d^5 4s^3 G_3 - 3s^2 3p^6 3d^5 4p^3 G_3$	4.55	4.25e+01
Fe III	2062.4170	$3s^2 3p^6 3d^5 4s^3 D_3 - 3s^2 3p^6 3d^5 4p^3 F_4$	4.55	3.87e+02
Mg III	2065.5659	$2s^2 2p^5 3s^3 P_2 - 2s^2 2p^5 3p^3 D_3$	5.10	3.33e+01
Fe III	2068.9109	$3s^2 3p^6 3d^5 4s^5 S_2 - 3s^2 3p^6 3d^5 4p^5 P_2$	4.50	1.39e+03
Fe III	2070.4709	$3s^2 3p^6 3d^5 4s^1 F_3 - 3s^2 3p^6 3d^5 4p^1 F_3$	4.55	3.78e+01
Fe III	2071.2000	$3s^2 3p^6 3d^5 4s^1 I_6 - 3s^2 3p^6 3d^5 4p^1 H_5$	4.55	2.26e+02
Fe III	2076.9939	$3s^2 3p^6 3d^5 4s^3 G_5 - 3s^2 3p^6 3d^5 4p^3 G_5$	4.55	3.99e+01
Fe III	2078.4180	$3s^2 3p^6 3d^5 4s^3 F_3 - 3s^2 3p^6 3d^5 4p^3 F_4$	4.55	6.72e+01
Fe III	2079.6550	$3s^2 3p^6 3d^5 4s^5 S_2 - 3s^2 3p^6 3d^5 4p^5 P_3$	4.50	1.92e+03
Al II	2082.1399	$3s 3p^3 P_1 - 3p^2 1D_2$	4.50	5.65e+01
Fe III	2085.0190	$3s^2 3p^6 3d^5 4s^3 G_3 - 3s^2 3p^6 3d^5 4p^3 H_4$	4.50	6.08e+02
Ni XV	2086.1760	$3s^2 3p^2 3P_1 - 3s^2 3p^2 1D_2$	6.40	3.34e+01
Al II	2087.5259	$3s 3p^3 P_2 - 3p^2 1D_2$	4.50	1.06e+02
Fe III	2087.8049	$3s^2 3p^6 3d^5 4s^3 D_3 - 3s^2 3p^6 3d^5 4p^3 D_3$	4.55	9.59e+01
Fe III	2088.5720	$3s^2 3p^6 3d^5 4s^3 D_1 - 3s^2 3p^6 3d^5 4p^3 D_1$	4.55	5.02e+01
S III	2089.7810	$3s^2 3p 3d^3 F_4 - 3s^2 3p 4p^3 D_3$	4.70	1.96e+02

Table 1: (continued)

Ion	$\lambda$ (Å)	Transition	$T_{\max}$	Int
Fe III	2090.8081	$3s^2 3p^6 3d^5 4s \ ^3G_4 - 3s^2 3p^6 3d^5 4p \ ^3H_5$	4.50	3.96e+02
Fe III	2090.9041	$3s^2 3p^6 3d^5 4s \ ^5D_4 - 3s^2 3p^6 3d^5 4p \ ^5D_4$	4.50	1.89e+02
Cr XIX	2091.5691	$2s^2 2p^2 \ ^3P_0 - 2s^2 2p^2 \ ^3P_1$	7.00	9.41e+02
Fe III	2091.9851	$3s^2 3p^6 3d^5 4s \ ^3D_2 - 3s^2 3p^6 3d^5 4p \ ^3D_2$	4.55	6.33e+01
C III	2092.6411	$2s 3d \ ^3D_3 - 2s 4p \ ^3P_2$	4.85	4.36e+01
Fe III	2093.6230	$3s^2 3p^6 3d^5 4s \ ^3F_2 - 3s^2 3p^6 3d^5 4p \ ^3G_3$	4.55	6.75e+01
Fe III	2095.8120	$3s^2 3p^6 3d^5 4s \ ^3G_4 - 3s^2 3p^6 3d^5 4p \ ^3F_3$	4.50	3.86e+02
Fe III	2095.9961	$3s^2 3p^6 3d^5 4s \ ^3F_2 - 3s^2 3p^6 3d^5 4p \ ^3F_3$	4.55	4.87e+01
S III	2097.9890	$3s^2 3p 3d \ ^3F_3 - 3s^2 3p 4p \ ^3D_2$	4.70	8.44e+01
Fe III	2098.1521	$3s^2 3p^6 3d^5 4s \ ^3G_5 - 3s^2 3p^6 3d^5 4p \ ^3H_6$	4.50	9.33e+02
Fe III	2098.3630	$3s^2 3p^6 3d^5 4s \ ^3G_5 - 3s^2 3p^6 3d^5 4p \ ^3F_4$	4.50	5.07e+02
S III	2098.5090	$3s^2 3p 3d \ ^3F_2 - 3s^2 3p 4p \ ^3D_1$	4.70	6.29e+01
Fe III	2099.9980	$3s^2 3p^6 3d^5 4s \ ^3F_3 - 3s^2 3p^6 3d^5 4p \ ^3G_4$	4.55	7.34e+01
Fe III	2101.6389	$3s^2 3p^6 3d^5 4s \ ^3F_4 - 3s^2 3p^6 3d^5 4p \ ^3G_5$	4.55	9.20e+01
Co XXII	2104.3770	$2s^2 2p^2 \ ^3P_1 - 2s^2 2p^2 \ ^3P_2$	7.10	6.53e+01
Fe III	2107.9880	$3s^2 3p^6 3d^5 4s \ ^3G_3 - 3s^2 3p^6 3d^5 4p \ ^3F_2$	4.50	2.01e+02
Fe III	2110.9121	$3s^2 3p^6 3d^5 4s \ ^5D_4 - 3s^2 3p^6 3d^5 4p \ ^5D_3$	4.50	3.30e+01
Fe III	2114.5850	$3s^2 3p^6 3d^5 4s \ ^1F_3 - 3s^2 3p^6 3d^5 4p \ ^1G_4$	4.55	4.20e+01
Fe III	2117.2170	$3s^2 3p^6 3d^5 4s \ ^5D_3 - 3s^2 3p^6 3d^5 4p \ ^5D_3$	4.50	7.03e+01
Fe III	2119.0840	$3s^2 3p^6 3d^5 4s \ ^5D_0 - 3s^2 3p^6 3d^5 4p \ ^5F_1$	4.50	4.96e+01
Fe III	2120.9180	$3s^2 3p^6 3d^5 4s \ ^5D_1 - 3s^2 3p^6 3d^5 4p \ ^5F_1$	4.50	4.76e+01
Fe III	2122.6919	$3s^2 3p^6 3d^5 4s \ ^5D_1 - 3s^2 3p^6 3d^5 4p \ ^5F_2$	4.50	9.11e+01
Fe III	2124.9290	$3s^2 3p^6 3d^5 4s \ ^5D_2 - 3s^2 3p^6 3d^5 4p \ ^5F_2$	4.50	5.92e+01
Fe III	2136.1951	$3s^2 3p^6 3d^5 4s \ ^3H_6 - 3s^2 3p^6 3d^5 4p \ ^3G_5$	4.55	4.61e+01
N II	2139.6831	$2s^2 2p^2 \ ^3P_1 - 2s 2p^3 \ ^5S_2$	4.50	1.43e+02
N II	2143.4480	$2s^2 2p^2 \ ^3P_2 - 2s 2p^3 \ ^5S_2$	4.50	3.51e+02
Fe III	2144.1470	$3s^2 3p^6 3d^5 4s \ ^5D_3 - 3s^2 3p^6 3d^5 4p \ ^5F_3$	4.50	4.79e+01
Fe III	2144.1931	$3s^2 3p^6 3d^5 4s \ ^5D_2 - 3s^2 3p^6 3d^5 4p \ ^5F_3$	4.50	1.35e+02
Fe III	2144.5149	$3s^2 3p^6 3d^5 4s \ ^5D_3 - 3s^2 3p^6 3d^5 4p \ ^5F_4$	4.50	1.69e+02
Fe III	2144.9609	$3s^2 3p^6 3d^5 4s \ ^5D_4 - 3s^2 3p^6 3d^5 4p \ ^5F_5$	4.50	1.70e+02
Fe III	2146.7241	$3s^2 3p^6 3d^5 4s \ ^5D_3 - 3s^2 3p^6 3d^5 4p \ ^5D_2$	4.50	3.33e+01
Si VII	2147.3970	$2s^2 2p^4 \ ^3P_2 - 2s^2 2p^4 \ ^1D_2$	5.75	4.92e+01
Fe III	2148.9390	$3s^2 3p^6 3d^5 4s \ ^3D_3 - 3s^2 3p^6 3d^5 4p \ ^3P_2$	4.55	3.71e+01
Si IX	2149.9871	$2s^2 2p^2 \ ^3P_2 - 2s^2 2p^2 \ ^1D_2$	6.05	6.94e+01
Fe III	2152.4580	$3s^2 3p^6 3d^5 4s \ ^1F_3 - 3s^2 3p^6 3d^5 4p \ ^1G_4$	4.55	1.65e+02
Fe III	2158.3870	$3s^2 3p^6 3d^5 4s \ ^3P_1 - 3s^2 3p^6 3d^5 4p \ ^3P_0$	4.55	3.72e+01
Fe III	2159.1599	$3s^2 3p^6 3d^5 4s \ ^1G_4 - 3s^2 3p^6 3d^5 4p \ ^1G_4$	4.55	3.47e+01
Fe III	2175.3320	$3s^2 3p^6 3d^5 4s \ ^3P_2 - 3s^2 3p^6 3d^5 4p \ ^3P_2$	4.55	4.94e+01
Al II	2193.2900	$3s 3d \ ^3D_3 - 3p 3d \ ^3F_4$	4.50	4.68e+01
Fe III	2209.5640	$3s^2 3p^6 3d^5 4s \ ^1D_2 - 3s^2 3p^6 3d^5 4p \ ^1D_2$	4.55	1.26e+02
Fe III	2262.2891	$3s^2 3p^6 3d^5 4s \ ^1F_3 - 3s^2 3p^6 3d^5 4p \ ^1D_2$	4.55	6.91e+01
C V	2271.5911	$1s 2s \ ^3S_1 - 1s 2p \ ^3P_2$	6.00	9.50e+01
Fe III	2272.9700	$3s^2 3p^6 3d^5 4s \ ^3H_4 - 3s^2 3p^6 3d^5 4p \ ^3H_4$	4.55	5.54e+01
C V	2278.6311	$1s 2s \ ^3S_1 - 1s 2p \ ^3P_1$	6.00	4.06e+01
Fe III	2279.4680	$3s^2 3p^6 3d^5 4s \ ^3H_5 - 3s^2 3p^6 3d^5 4p \ ^3H_5$	4.55	5.88e+01
C III	2297.5779	$2s 2p \ ^1P_1 - 2p^2 \ ^1D_2$	4.75	2.60e+04
Fe XXI	2298.0000	$2s^2 2p^2 \ ^3P_1 - 2s^2 2p^2 \ ^3P_2$	7.10	3.25e+04
Fe III	2307.3589	$3s^2 3p^6 3d^5 4s \ ^3H_6 - 3s^2 3p^6 3d^5 4p \ ^3H_6$	4.55	3.65e+01
Fe III	2322.4541	$3s^2 3p^6 3d^5 4s \ ^1H_5 - 3s^2 3p^6 3d^5 4p \ ^1I_6$	4.55	1.62e+02

Table 1: (continued)

Ion	$\lambda$ (Å)	Transition	$T_{\max}$	Int
C II	2325.4080	$2s^2 2p^2 P_{1/2} - 2s 2p^2 4P_{1/2}$	4.50	3.15e+02
C II	2326.1221	$2s^2 2p^2 P_{3/2} - 2s 2p^2 4P_{5/2}$	4.50	6.84e+02
Fe III	2327.6541	$3s^2 3p^6 3d^5 4s^3 G_3 - 3s^2 3p^6 3d^5 4p^3 H_4$	4.55	9.07e+01
C II	2327.7029	$2s^2 2p^2 P_{3/2} - 2s 2p^2 4P_{3/2}$	4.50	8.93e+01
Fe II	2328.1111	$3d^6 ({}^5D) 4s^6 D_{5/2} - 3d^6 ({}^5D) 4p^6 P_{3/2}$	4.50	6.89e+01
C II	2328.8420	$2s^2 2p^2 P_{3/2} - 2s 2p^2 4P_{1/2}$	4.50	3.57e+02
Fe II	2333.5161	$3d^6 ({}^5D) 4s^6 D_{7/2} - 3d^6 ({}^5D) 4p^6 P_{5/2}$	4.50	1.96e+02
Si II	2335.1230	$3s^2 3p^2 P_{1/2} - 3s 3p^2 4P_{1/2}$	4.50	5.39e+01
Si II	2335.3210	$3s^2 3p^2 P_{3/2} - 3s 3p^2 4P_{5/2}$	4.50	8.13e+01
Fe III	2337.4871	$3s^2 3p^6 3d^5 4s^3 G_4 - 3s^2 3p^6 3d^5 4p^3 H_5$	4.55	8.44e+01
Fe II	2338.7251	$3d^6 ({}^5D) 4s^6 D_{3/2} - 3d^6 ({}^5D) 4p^6 P_{3/2}$	4.50	1.01e+02
Fe II	2344.2141	$3d^6 ({}^5D) 4s^6 D_{9/2} - 3d^6 ({}^5D) 4p^6 P_{7/2}$	4.50	3.92e+02
Fe II	2345.0010	$3d^6 ({}^5D) 4s^6 D_{1/2} - 3d^6 ({}^5D) 4p^6 P_{3/2}$	4.50	7.17e+01
Fe II	2346.0569	$3d^6 ({}^3H) 4s^4 H_{13/2} - 3d^6 ({}^3F_2) 4p^4 G_{11/2}$	4.50	3.80e+01
Fe II	2348.8340	$3d^7 4F_{9/2} - 3d^6 ({}^5D) 4p^4 D_{7/2}$	4.50	2.84e+02
Fe II	2349.0220	$3d^6 ({}^5D) 4s^6 D_{5/2} - 3d^6 ({}^5D) 4p^6 P_{5/2}$	4.50	1.36e+02
Si II	2350.8921	$3s^2 3p^2 P_{3/2} - 3s 3p^2 4P_{1/2}$	4.50	4.48e+01
Fe III	2353.3291	$3s^2 3p^6 3d^5 4s^3 D_2 - 3s^2 3p^6 3d^5 4p^3 D_2$	4.55	3.93e+01
Fe III	2354.5420	$3s^2 3p^6 3d^5 4s^3 D_3 - 3s^2 3p^6 3d^5 4p^3 D_3$	4.55	6.90e+01
Fe II	2359.8279	$3d^6 ({}^5D) 4s^6 D_{3/2} - 3d^6 ({}^5D) 4p^6 P_{5/2}$	4.50	4.38e+01
Fe II	2360.7209	$3d^7 4F_{9/2} - 3d^6 ({}^5D) 4p^4 F_{9/2}$	4.50	3.59e+01
Fe III	2361.0071	$3s^2 3p^6 3d^5 4s^3 G_5 - 3s^2 3p^6 3d^5 4p^3 H_6$	4.55	6.73e+01
Fe II	2361.0149	$3d^7 4F_{7/2} - 3d^6 ({}^5D) 4p^4 D_{5/2}$	4.50	1.76e+02
Fe II	2362.7419	$3d^7 4F_{7/2} - 3d^6 ({}^5D) 4p^4 F_{7/2}$	4.50	8.52e+01
Fe II	2365.5520	$3d^6 ({}^5D) 4s^6 D_{7/2} - 3d^6 ({}^5D) 4p^6 P_{7/2}$	4.50	1.08e+02
Fe II	2367.3159	$3d^7 4F_{5/2} - 3d^6 ({}^5D) 4p^4 F_{5/2}$	4.50	5.53e+01
Fe II	2369.3191	$3d^7 4F_{5/2} - 3d^6 ({}^5D) 4p^4 D_{3/2}$	4.50	1.11e+02
Fe II	2371.2219	$3d^7 4F_{3/2} - 3d^6 ({}^5D) 4p^4 F_{3/2}$	4.50	4.19e+01
Fe II	2374.4609	$3d^6 ({}^5D) 4s^6 D_{9/2} - 3d^6 ({}^5D) 4p^6 F_{9/2}$	4.50	1.37e+02
Fe II	2375.9180	$3d^7 4F_{3/2} - 3d^6 ({}^5D) 4p^4 D_{1/2}$	4.50	6.75e+01
Fe II	2382.7649	$3d^6 ({}^5D) 4s^6 D_{9/2} - 3d^6 ({}^5D) 4p^6 F_{11/2}$	4.50	8.58e+02
Fe II	2383.9709	$3d^7 4F_{5/2} - 3d^6 ({}^5D) 4p^4 D_{5/2}$	4.50	3.60e+01
Fe II	2389.3579	$3d^6 ({}^5D) 4s^6 D_{7/2} - 3d^6 ({}^5D) 4p^6 F_{7/2}$	4.50	1.98e+02
Fe III	2390.2571	$3s^2 3p^6 3d^5 4s^1 H_5 - 3s^2 3p^6 3d^5 4p^1 G_4$	4.55	5.45e+01
Fe II	2396.1499	$3d^6 ({}^5D) 4s^6 D_{5/2} - 3d^6 ({}^5D) 4p^6 F_{3/2}$	4.50	3.46e+01
Fe II	2396.3560	$3d^6 ({}^5D) 4s^6 D_{7/2} - 3d^6 ({}^5D) 4p^6 F_{9/2}$	4.50	5.83e+02
S IV	2399.5200	$3s^2 4p^2 P_{3/2} - 3s^2 4d^2 D_{5/2}$	4.95	3.69e+01
Fe II	2399.9729	$3d^6 ({}^5D) 4s^6 D_{5/2} - 3d^6 ({}^5D) 4p^6 F_{5/2}$	4.50	1.99e+02
Fe II	2405.6189	$3d^6 ({}^5D) 4s^6 D_{5/2} - 3d^6 ({}^5D) 4p^6 F_{7/2}$	4.50	3.66e+02
Fe XII	2406.4141	$3s^2 3p^3 4S_{3/2} - 3s^2 3p^3 2D_{3/2}$	6.20	1.88e+02
Fe II	2407.3940	$3d^6 ({}^5D) 4s^6 D_{3/2} - 3d^6 ({}^5D) 4p^6 F_{3/2}$	4.50	1.61e+02
Fe II	2411.2529	$3d^6 ({}^5D) 4s^6 D_{3/2} - 3d^6 ({}^5D) 4p^6 F_{5/2}$	4.50	2.03e+02
Fe II	2411.8020	$3d^6 ({}^5D) 4s^6 D_{1/2} - 3d^6 ({}^5D) 4p^6 F_{1/2}$	4.50	1.07e+02
Fe II	2414.0449	$3d^6 ({}^5D) 4s^6 D_{1/2} - 3d^6 ({}^5D) 4p^6 F_{3/2}$	4.50	8.66e+01
Fe II	2424.8831	$3d^6 ({}^3F_2) 4s^4 F_{9/2} - 3d^6 ({}^3F_2) 4p^4 G_{11/2}$	4.50	1.29e+02
Fe II	2429.0300	$3d^6 ({}^3D) 4s^4 D_{7/2} - 3d^6 ({}^3D) 4p^4 D_{7/2}$	4.50	4.32e+01
Fe II	2429.1021	$3d^6 ({}^3D) 4s^4 D_{7/2} - 3d^6 ({}^3D) 4p^4 F_{9/2}$	4.50	9.04e+01
Fe II	2430.8169	$3d^6 ({}^3F_2) 4s^4 F_{7/2} - 3d^6 ({}^3F_2) 4p^4 G_{9/2}$	4.50	9.79e+01
Fe II	2432.9990	$3d^6 ({}^3F_2) 4s^4 F_{5/2} - 3d^6 ({}^3F_2) 4p^4 G_{7/2}$	4.50	7.46e+01

Table 1: (continued)

Ion	$\lambda$ (Å)	Transition	$T_{\max}$	Int
O II	2434.2810	$2s^2 2p^2 3s^2 P_{1/2} - 2s^2 2p^2 3p^2 D_{3/2}$	4.65	4.97e+01
Fe II	2435.6909	$3d^6 (^3F2) 4s^4 F_{3/2} - 3d^6 (^3F2) 4p^4 G_{5/2}$	4.50	5.53e+01
Fe II	2440.0420	$3d^6 (^3G) 4s^4 G_{11/2} - 3d^6 (^3G) 4p^4 H_{13/2}$	4.50	1.61e+02
Fe II	2441.1631	$3d^6 (^3D) 4s^4 D_{5/2} - 3d^6 (^3D) 4p^4 F_{7/2}$	4.50	5.57e+01
Fe II	2445.2571	$3d^6 (^3P2) 4s^4 P_{5/2} - 3d^6 (^3P2) 4p^4 D_{7/2}$	4.50	7.54e+01
O II	2446.2681	$2s^2 2p^2 3s^2 P_{3/2} - 2s^2 2p^2 3p^2 D_{5/2}$	4.65	8.82e+01
Fe II	2446.3140	$3d^6 (^3P2) 4s^4 P_{3/2} - 3d^6 (^3P2) 4p^4 D_{5/2}$	4.50	4.04e+01
Fe II	2446.5381	$3d^6 (^3D) 4s^4 D_{3/2} - 3d^6 (^3D) 4p^4 F_{5/2}$	4.50	3.70e+01
O III	2455.7051	$2s^2 2p 3s^1 P_1 - 2s^2 2p 3p^1 S_0$	4.95	6.02e+01
Fe II	2459.5281	$3d^6 (^3G) 4s^4 G_{9/2} - 3d^6 (^3G) 4p^4 H_{11/2}$	4.50	1.37e+02
Fe II	2462.0291	$3d^6 (^3G) 4s^4 G_{5/2} - 3d^6 (^3G) 4p^4 H_{7/2}$	4.50	8.77e+01
Fe II	2462.6069	$3d^6 (^3G) 4s^4 G_{7/2} - 3d^6 (^3G) 4p^4 H_{9/2}$	4.50	1.09e+02
Fe II	2464.0271	$3d^6 (^3G) 4s^4 G_{11/2} - 3d^6 (^3G) 4p^4 F_{9/2}$	4.50	5.97e+01
Fe II	2464.7571	$3d^6 (^3G) 4s^4 G_{9/2} - 3d^6 (^3G) 4p^4 F_{7/2}$	4.50	4.70e+01
Fe II	2466.6580	$3d^6 (^3G) 4s^4 G_{7/2} - 3d^6 (^3G) 4p^4 F_{5/2}$	4.50	3.50e+01
Fe II	2467.5669	$3d^6 (^3F2) 4s^4 F_{5/2} - 3d^6 (^3F2) 4p^4 D_{3/2}$	4.50	4.16e+01
Fe II	2471.4170	$3d^6 (^3F2) 4s^4 F_{7/2} - 3d^6 (^3F2) 4p^4 D_{5/2}$	4.50	6.17e+01
Fe II	2480.9070	$3d^6 (^3F2) 4s^4 F_{9/2} - 3d^6 (^3F2) 4p^4 D_{7/2}$	4.50	9.38e+01
Fe II	2490.5820	$3d^6 (^3G) 4s^4 G_{11/2} - 3d^6 (^3G) 4p^4 G_{11/2}$	4.50	1.06e+02
Fe II	2493.9360	$3d^6 (^3H) 4s^4 H_{11/2} - 3d^6 (^3H) 4p^4 I_{13/2}$	4.50	2.49e+02
Fe II	2494.0139	$3d^6 (^3H) 4s^4 H_{13/2} - 3d^6 (^3H) 4p^4 I_{15/2}$	4.50	2.51e+02
Fe II	2498.5730	$3d^6 (^3G) 4s^4 G_{5/2} - 3d^6 (^3G) 4p^4 G_{5/2}$	4.50	5.00e+01
Fe IX	2498.8379	$3s^2 3p^5 3d^3 F_4 - 3s^2 3p^5 3d^1 F_3$	5.95	9.07e+01
Fe II	2499.6521	$3d^6 (^3H) 4s^4 H_{9/2} - 3d^6 (^3H) 4p^4 I_{11/2}$	4.50	2.29e+02
Fe II	2503.1470	$3d^6 (^3G) 4s^4 G_{7/2} - 3d^6 (^3G) 4p^4 G_{7/2}$	4.50	6.07e+01
Fe II	2506.8491	$3d^6 (^3G) 4s^4 G_{9/2} - 3d^6 (^3G) 4p^4 G_{9/2}$	4.50	7.93e+01
C II	2509.8811	$2s 2p^2 2P_{1/2} - 2p^3 2D_{3/2}$	4.50	9.16e+01
O IV	2509.9709	$2s 2p 3s^4 P_{5/2} - 2s 2p 3p^4 P_{5/2}$	5.15	7.58e+01
Fe II	2512.5181	$3d^6 (^3H) 4s^4 H_{7/2} - 3d^6 (^3H) 4p^4 I_{9/2}$	4.50	1.89e+02
O IV	2518.1311	$2s 2p 3s^4 P_{5/2} - 2s 2p 3p^4 P_{3/2}$	5.15	3.84e+01
Fe II	2526.1479	$3d^6 (^3H) 4s^4 H_{13/2} - 3d^6 (^3H) 4p^4 H_{13/2}$	4.50	1.97e+02
Fe II	2527.0549	$3d^6 (^3P2) 4s^4 P_{5/2} - 3d^6 (^3P2) 4p^4 P_{5/2}$	4.50	5.10e+01
Fe III	2527.9080	$3s^2 3p^6 3d^5 4s^3 D_3 - 3s^2 3p^6 3d^5 4p^3 G_4$	4.55	3.39e+01
Fe II	2530.3059	$3d^6 (^3F2) 4s^4 F_{9/2} - 3d^6 (^3F2) 4p^4 F_{9/2}$	4.50	1.14e+02
Fe II	2534.3889	$3d^6 (^3H) 4s^4 H_{11/2} - 3d^6 (^3H) 4p^4 H_{11/2}$	4.50	2.02e+02
Fe II	2535.1809	$3d^6 (^3H) 4s^4 H_{7/2} - 3d^6 (^3H) 4p^4 H_{7/2}$	4.50	1.09e+02
Fe II	2537.5681	$3d^6 (^3H) 4s^4 H_{9/2} - 3d^6 (^3H) 4p^4 H_{9/2}$	4.50	1.31e+02
Fe II	2539.5620	$3d^6 (^3H) 4s^4 H_{11/2} - 3d^6 (^3H) 4p^4 G_{9/2}$	4.50	8.34e+01
Fe II	2539.6731	$3d^6 (^3H) 4s^4 H_{9/2} - 3d^6 (^3H) 4p^4 G_{7/2}$	4.50	7.01e+01
Fe II	2539.7571	$3d^6 (^3H) 4s^4 H_{13/2} - 3d^6 (^3H) 4p^4 G_{11/2}$	4.50	1.04e+02
Si III	2542.5820	$3s 3p^1 P_1 - 3p^2 1D_2$	4.60	1.81e+04
Fe II	2542.5991	$3d^6 (^3H) 4s^4 H_{7/2} - 3d^6 (^3H) 4p^4 G_{5/2}$	4.50	6.94e+01
Fe II	2547.4360	$3d^6 (^3F2) 4s^4 F_{7/2} - 3d^6 (^3F2) 4p^4 F_{7/2}$	4.50	7.61e+01
Fe II	2550.1599	$3d^6 (^3F2) 4s^4 F_{3/2} - 3d^6 (^3F2) 4p^4 F_{3/2}$	4.50	3.96e+01
Fe II	2550.2261	$3d^6 (^3F2) 4s^4 F_{5/2} - 3d^6 (^3F2) 4p^4 F_{5/2}$	4.50	5.09e+01
Mn XX	2559.5090	$2s^2 2p^2 3P_1 - 2s^2 2p^2 3P_2$	7.05	1.81e+02
Fe II	2563.3040	$3d^6 (^5D) 4s^4 D_{7/2} - 3d^6 (^5D) 4p^4 P_{5/2}$	4.50	2.79e+02
Fe II	2564.2451	$3d^6 (^5D) 4s^4 D_{5/2} - 3d^6 (^5D) 4p^4 P_{3/2}$	4.50	1.39e+02
Fe XII	2566.7749	$3s^2 3p^3 2D_{3/2} - 3s^2 3p^3 2P_{3/2}$	6.20	8.29e+01

Table 1: (continued)

Ion	$\lambda$ (Å)	Transition	$T_{\max}$	Int
Fe II	2567.6831	$3d^6 (^5D) 4s^4 D_{3/2} - 3d^6 (^5D) 4p^4 P_{1/2}$	4.50	5.39e+01
Fe II	2578.6951	$3d^6 (^5D) 4s^4 D_{1/2} - 3d^6 (^5D) 4p^4 P_{1/2}$	4.50	5.30e+01
Fe XIII	2579.5400	$3s^2 3p^2 ^3P_1 - 3s^2 3p^2 ^1D_2$	6.25	2.82e+02
Fe II	2583.3569	$3d^6 (^5D) 4s^4 D_{3/2} - 3d^6 (^5D) 4p^4 P_{3/2}$	4.50	6.88e+01
Fe II	2586.6499	$3d^6 (^5D) 4s^6 D_{9/2} - 3d^6 (^5D) 4p^6 D_{7/2}$	4.50	1.82e+02
Fe II	2592.3181	$3d^6 (^5D) 4s^4 D_{5/2} - 3d^6 (^5D) 4p^4 P_{5/2}$	4.50	6.00e+01
Fe III	2596.3979	$3s^2 3p^6 3d^5 4s^3 I_7 - 3s^2 3p^6 3d^5 4p^3 H_6$	4.50	4.05e+01
Fe II	2599.1470	$3d^6 (^5D) 4s^6 D_{7/2} - 3d^6 (^5D) 4p^6 D_{5/2}$	4.50	2.48e+02
Fe II	2600.1731	$3d^6 (^5D) 4s^6 D_{9/2} - 3d^6 (^5D) 4p^6 D_{9/2}$	4.50	7.54e+02
Fe II	2607.8660	$3d^6 (^5D) 4s^6 D_{5/2} - 3d^6 (^5D) 4p^6 D_{3/2}$	4.50	2.24e+02
Fe II	2612.6541	$3d^6 (^5D) 4s^6 D_{7/2} - 3d^6 (^5D) 4p^6 D_{7/2}$	4.50	3.39e+02
Fe II	2614.6050	$3d^6 (^5D) 4s^6 D_{3/2} - 3d^6 (^5D) 4p^6 D_{1/2}$	4.50	1.44e+02
Fe II	2618.3989	$3d^6 (^5D) 4s^6 D_{5/2} - 3d^6 (^5D) 4p^6 D_{5/2}$	4.50	9.62e+01
Fe II	2622.4519	$3d^6 (^5D) 4s^6 D_{1/2} - 3d^6 (^5D) 4p^6 D_{1/2}$	4.50	4.06e+01
Fe II	2626.4509	$3d^6 (^5D) 4s^6 D_{7/2} - 3d^6 (^5D) 4p^6 D_{9/2}$	4.50	1.65e+02
Fe II	2629.0779	$3d^6 (^5D) 4s^6 D_{1/2} - 3d^6 (^5D) 4p^6 D_{3/2}$	4.50	1.41e+02
Fe II	2631.8320	$3d^6 (^5D) 4s^6 D_{3/2} - 3d^6 (^5D) 4p^6 D_{5/2}$	4.50	2.20e+02
Fe II	2632.1079	$3d^6 (^5D) 4s^6 D_{5/2} - 3d^6 (^5D) 4p^6 D_{7/2}$	4.50	2.36e+02
Al II	2632.3340	$3p^2 ^1D_2 - 3s 4f ^1F_3$	4.50	4.77e+01
Fe III	2646.2029	$3s^2 3p^6 3d^5 4s^3 F_4 - 3s^2 3p^6 3d^5 4p^3 G_5$	4.55	4.18e+01
Fe XI	2649.4980	$3s^2 3p^4 ^3P_2 - 3s^2 3p^4 ^1D_2$	6.15	2.76e+02
Fe XX	2666.0271	$2s^2 2p^3 ^2D_{3/2} - 2s^2 2p^3 ^2D_{5/2}$	7.05	3.20e+03
Al II	2669.9490	$3s^2 ^1S_0 - 3s 3p ^3P_1$	4.50	7.75e+02
Cr II	2677.9551	$3d^4 (^5D) 4s^6 D_{9/2} - 3d^4 (^5D) 4p^6 D_{9/2}$	4.50	5.22e+01
Fe II	2715.2170	$3d^6 (^5D) 4s^4 D_{7/2} - 3d^6 (^5D) 4p^4 D_{5/2}$	4.50	6.37e+01
Fe II	2717.5020	$3d^6 (^5D) 4s^4 D_{7/2} - 3d^6 (^5D) 4p^4 F_{7/2}$	4.50	6.61e+01
Fe II	2725.6909	$3d^6 (^5D) 4s^4 D_{5/2} - 3d^6 (^5D) 4p^4 F_{5/2}$	4.50	8.08e+01
Fe II	2728.3469	$3d^6 (^5D) 4s^4 D_{5/2} - 3d^6 (^5D) 4p^4 D_{3/2}$	4.50	7.49e+01
Fe II	2731.5430	$3d^6 (^5D) 4s^4 D_{3/2} - 3d^6 (^5D) 4p^4 F_{3/2}$	4.50	6.05e+01
Fe II	2737.7759	$3d^6 (^5D) 4s^4 D_{3/2} - 3d^6 (^5D) 4p^4 D_{1/2}$	4.50	5.21e+01
Ca XVI	2738.2261	$2s^2 2p^2 P_{1/2} - 2s^2 2p^2 P_{3/2}$	6.80	8.27e+02
Fe II	2740.3579	$3d^6 (^5D) 4s^4 D_{7/2} - 3d^6 (^5D) 4p^4 D_{7/2}$	4.50	4.02e+02
Fe II	2744.0090	$3d^6 (^5D) 4s^4 D_{1/2} - 3d^6 (^5D) 4p^4 F_{3/2}$	4.50	1.49e+02
Fe II	2747.2959	$3d^6 (^5D) 4s^4 D_{3/2} - 3d^6 (^5D) 4p^4 F_{5/2}$	4.50	2.41e+02
Fe II	2747.7939	$3d^6 (^5D) 4s^4 D_{5/2} - 3d^6 (^5D) 4p^4 D_{5/2}$	4.50	1.83e+02
Fe II	2749.9939	$3d^6 (^5D) 4s^4 D_{3/2} - 3d^6 (^5D) 4p^4 D_{3/2}$	4.50	8.30e+01
Fe II	2750.1340	$3d^6 (^5D) 4s^4 D_{5/2} - 3d^6 (^5D) 4p^4 F_{7/2}$	4.50	3.79e+02
Fe II	2750.2991	$3d^6 (^5D) 4s^4 D_{1/2} - 3d^6 (^5D) 4p^4 D_{1/2}$	4.50	5.12e+01
Fe II	2756.5510	$3d^6 (^5D) 4s^4 D_{7/2} - 3d^6 (^5D) 4p^4 F_{9/2}$	4.50	1.53e+02
Fe II	2762.6289	$3d^6 (^5D) 4s^4 D_{1/2} - 3d^6 (^5D) 4p^4 D_{3/2}$	4.50	5.09e+01
Cr II	2767.3540	$3d^4 (^5D) 4s^6 D_{9/2} - 3d^4 (^5D) 4p^6 P_{7/2}$	4.50	3.37e+01
Fe II	2769.7529	$3d^6 (^5D) 4s^4 D_{3/2} - 3d^6 (^5D) 4p^4 D_{5/2}$	4.50	7.23e+01
Fe II	2773.5449	$3d^6 (^5D) 4s^4 D_{5/2} - 3d^6 (^5D) 4p^4 D_{7/2}$	4.50	6.36e+01
O V	2781.8269	$2s 3s^3 S_1 - 2s 3p^3 P_2$	5.35	1.55e+02
O V	2787.8140	$2s 3s^3 S_1 - 2s 3p^3 P_1$	5.35	6.44e+01
Mg II	2791.5959	$3p^2 P_{1/2} - 3d^2 D_{3/2}$	4.50	8.73e+01
Mg II	2796.3501	$3s^2 S_{1/2} - 3p^2 P_{3/2}$	4.50	4.19e+03
Mg II	2798.8230	$3p^2 P_{3/2} - 3d^2 D_{5/2}$	4.50	1.56e+02
Mg II	2803.5310	$3s^2 S_{1/2} - 3p^2 P_{1/2}$	4.50	2.10e+03

Table 1: (continued)

Ion	$\lambda$ (Å)	Transition	$T_{\max}$	Int
Al II	2817.0129	$3s 3p^1P_1 - 3s 4s^1S_0$	4.50	2.67e+02
Cr II	2823.1980	$3d^4 (^3H) 4s^4H_{13/2} - 3d^4 (^3H) 4p^4I_{15/2}$	4.50	3.35e+01
Cr II	2831.2991	$3d^4 (^3H) 4s^4H_{11/2} - 3d^4 (^3H) 4p^4I_{13/2}$	4.50	4.58e+01
Cr II	2836.4661	$3d^4 (^5D) 4s^6D_{9/2} - 3d^4 (^5D) 4p^6F_{11/2}$	4.50	9.54e+01
C II	2837.5410	$2s 2p^2 ^2S_{1/2} - 2s^2 3p^2P_{3/2}$	4.50	3.52e+02
C II	2838.4390	$2s 2p^2 ^2S_{1/2} - 2s^2 3p^2P_{1/2}$	4.50	4.91e+02
Cr II	2840.8501	$3d^4 (^3H) 4s^4H_{9/2} - 3d^4 (^3H) 4p^4I_{11/2}$	4.50	7.11e+01
Cr II	2844.0811	$3d^4 (^5D) 4s^6D_{7/2} - 3d^4 (^5D) 4p^6F_{9/2}$	4.50	7.04e+01
Cr II	2850.6721	$3d^4 (^5D) 4s^6D_{5/2} - 3d^4 (^5D) 4p^6F_{7/2}$	4.50	4.20e+01
Cr II	2852.1899	$3d^4 (^3H) 4s^4H_{7/2} - 3d^4 (^3H) 4p^4I_{9/2}$	4.50	3.74e+01
S III	2864.3540	$3s^2 3p 4p^3D_3 - 3s^2 3p 4d^3F_4$	4.70	3.58e+01
Cr II	2876.8340	$3d^4 (^5D) 4s^4D_{7/2} - 3d^4 (^5D) 4p^4D_{7/2}$	4.50	3.71e+01
Cr XIX	2886.2529	$2s^2 2p^2 ^3P_1 - 2s^2 2p^2 ^3P_2$	7.00	3.31e+02
Mg II	2929.4929	$3p^2P_{1/2} - 4s^2S_{1/2}$	4.50	3.65e+01
Mg II	2937.3750	$3p^2P_{3/2} - 4s^2S_{1/2}$	4.50	7.31e+01
He I	2945.9600	$1s 2s^3S_1 - 1s 5p^3P_0$	4.50	7.05e+01
He I	2945.9651	$1s 2s^3S_1 - 1s 5p^3P_2$	4.50	3.53e+02
He I	2945.9651	$1s 2s^3S_1 - 1s 5p^3P_1$	4.50	2.12e+02
Cr II	2972.7690	$3d^4 (^3H) 4s^4H_{13/2} - 3d^4 (^3H) 4p^4H_{13/2}$	4.50	3.36e+01
O III	2984.6470	$2s^2 2p 3s^1P_1 - 2s^2 2p 3p^1D_2$	4.95	6.93e+01
Fe II	2985.6951	$3d^7 ^4P_{5/2} - 3d^6 (^5D) 4p^4P_{5/2}$	4.50	5.43e+01
O III	3024.3000	$2s^2 2p 3s^3P_1 - 2s^2 2p 3p^3P_2$	4.95	4.42e+01
O III	3025.4170	$2s^2 2p 3s^3P_0 - 2s^2 2p 3p^3P_1$	4.95	3.52e+01
Cr II	3041.8091	$3d^4 (^3H) 4s^2H_{9/2} - 3d^4 (^3H) 4p^2I_{11/2}$	4.50	3.37e+01
O III	3043.8811	$2s^2 2p 3s^3P_1 - 2s^2 2p 3p^3P_0$	4.95	3.55e+01
O III	3047.9810	$2s^2 2p 3s^3P_2 - 2s^2 2p 3p^3P_2$	4.95	1.33e+02
O III	3060.1631	$2s^2 2p 3s^3P_2 - 2s^2 2p 3p^3P_1$	4.95	4.53e+01
O IV	3064.3169	$2s^2 3s^2S_{1/2} - 2s^2 3p^2P_{3/2}$	5.15	1.51e+02
O IV	3072.4890	$2s^2 3s^2S_{1/2} - 2s^2 3p^2P_{1/2}$	5.15	7.45e+01
Si III	3087.1250	$3s 3d^3D_3 - 3s 4p^3P_2$	4.70	6.17e+02
Si III	3087.3250	$3s 3d^3D_2 - 3s 4p^3P_2$	4.70	1.10e+02
Si III	3094.3181	$3s 3d^3D_2 - 3s 4p^3P_1$	4.70	2.98e+02
Si III	3094.5481	$3s 3d^3D_1 - 3s 4p^3P_1$	4.70	1.02e+02
Si III	3097.7209	$3s 3d^3D_1 - 3s 4p^3P_0$	4.70	1.42e+02
Cr II	3125.8831	$3d^4 (^5D) 4s^4D_{5/2} - 3d^4 (^5D) 4p^4F_{7/2}$	4.50	4.31e+01
Cr II	3132.9641	$3d^4 (^5D) 4s^4D_{7/2} - 3d^4 (^5D) 4p^4F_{9/2}$	4.50	6.36e+01
Si III	3186.0430	$3s 4p^1P_1 - 3s 5s^1S_0$	4.75	3.47e+01
He I	3188.6550	$1s 2s^3S_1 - 1s 4p^3P_0$	4.50	2.12e+02
He I	3188.6660	$1s 2s^3S_1 - 1s 4p^3P_1$	4.50	6.37e+02
He I	3188.6670	$1s 2s^3S_1 - 1s 4p^3P_2$	4.50	1.06e+03
He II	3204.0381	$3p^2P_{3/2} - 5d^2D_{5/2}$	4.90	8.94e+01
He II	3204.0510	$3p^2P_{1/2} - 5d^2D_{3/2}$	4.90	4.97e+01
He II	3204.0859	$3p^2P_{3/2} - 5s^2S_{1/2}$	4.90	8.02e+01
He II	3204.0891	$3p^2P_{1/2} - 5s^2S_{1/2}$	4.90	4.01e+01
O III	3261.8020	$2s^2 2p 3p^3D_2 - 2s^2 2p 3d^3F_3$	4.95	8.97e+01
O III	3266.2771	$2s^2 2p 3p^3D_3 - 2s^2 2p 3d^3F_4$	4.95	1.34e+02
S III	3325.8169	$3s^2 3p 3d^3P_2 - 3s^2 3p 4p^3P_2$	4.70	4.07e+01
Ca XII	3328.4519	$2s^2 2p^5 ^2P_{3/2} - 2s^2 2p^5 ^2P_{1/2}$	6.50	5.49e+01
Ti XVII	3371.7720	$2s^2 2p^2 ^3P_0 - 2s^2 2p^2 ^3P_1$	6.85	8.16e+01

Table 1: (continued)

Ion	$\lambda$ (Å)	Transition	$T_{\max}$	Int
O IV	3382.1831	$2s\ 2p\ 3s\ ^4P_{3/2} - 2s\ 2p\ 3p\ ^4D_{5/2}$	5.15	5.11e+01
O IV	3386.4900	$2s\ 2p\ 3s\ ^4P_{5/2} - 2s\ 2p\ 3p\ ^4D_{7/2}$	5.15	1.01e+02
Fe XIII	3388.9109	$3s^2\ 3p^2\ ^3P_2 - 3s^2\ 3p^2\ ^1D_2$	6.25	2.62e+02
N IV	3479.7129	$2s\ 3s\ ^3S_1 - 2s\ 3p\ ^3P_2$	5.10	8.44e+01
N IV	3483.9561	$2s\ 3s\ ^3S_1 - 2s\ 3p\ ^3P_1$	5.10	4.81e+01
S III	3498.2900	$3s^2\ 3p\ 4s\ ^1P_1 - 3s^2\ 3p\ 4p\ ^1D_2$	4.70	6.57e+01
Al II	3587.5730	$3s\ 3d\ ^3D_3 - 3s\ 4f\ ^3F_4$	4.50	5.46e+01
Al II	3588.0879	$3s\ 3d\ ^3D_2 - 3s\ 4f\ ^3F_3$	4.50	3.75e+01
Ni XVI	3602.2539	$3s^2\ 3p\ ^2P_{1/2} - 3s^2\ 3p\ ^2P_{3/2}$	6.45	1.84e+02
Ca XVII	3646.8401	$2s\ 2p\ ^3P_1 - 2s\ 2p\ ^3P_2$	6.85	1.12e+02
O II	3728.3799	$2s^2\ 2p^2\ 3s\ ^4P_{3/2} - 2s^2\ 2p^2\ 3p\ ^4S_{3/2}$	4.65	3.77e+01
O IV	3737.9131	$2s\ 2p\ 3p\ ^4D_{7/2} - 2s\ 2p\ 3d\ ^4F_{9/2}$	5.15	3.48e+01
O II	3750.5581	$2s^2\ 2p^2\ 3s\ ^4P_{5/2} - 2s^2\ 2p^2\ 3p\ ^4S_{3/2}$	4.65	5.74e+01
O III	3755.7561	$2s^2\ 2p\ 3s\ ^3P_1 - 2s^2\ 2p\ 3p\ ^3D_2$	4.95	9.45e+01
O III	3758.2959	$2s^2\ 2p\ 3s\ ^3P_0 - 2s^2\ 2p\ 3p\ ^3D_1$	4.90	3.58e+01
O III	3760.9399	$2s^2\ 2p\ 3s\ ^3P_2 - 2s^2\ 2p\ 3p\ ^3D_3$	4.95	1.79e+02
Si III	3792.5190	$3s\ 4p\ ^3P_0 - 3s\ 4d\ ^3D_1$	4.70	4.56e+01
Si III	3797.1990	$3s\ 4p\ ^3P_1 - 3s\ 4d\ ^3D_2$	4.70	1.07e+02
Si III	3797.2859	$3s\ 4p\ ^3P_1 - 3s\ 4d\ ^3D_1$	4.70	3.41e+01
Si III	3807.6089	$3s\ 4p\ ^3P_2 - 3s\ 4d\ ^3D_3$	4.70	2.19e+02
Si III	3807.7830	$3s\ 4p\ ^3P_2 - 3s\ 4d\ ^3D_2$	4.70	3.53e+01
Ti XVII	3835.5320	$2s^2\ 2p^2\ ^3P_1 - 2s^2\ 2p^2\ ^3P_2$	6.85	3.43e+01
Si II	3857.1111	$3s\ 3p^2\ ^2D_{5/2} - 3s^2\ 4p\ ^2P_{3/2}$	4.50	3.32e+01
He I	3889.7070	$1s\ 2s\ ^3S_1 - 1s\ 3p\ ^3P_0$	4.50	9.73e+02
He I	3889.7480	$1s\ 2s\ ^3S_1 - 1s\ 3p\ ^3P_1$	4.50	2.92e+03
He I	3889.7510	$1s\ 2s\ ^3S_1 - 1s\ 3p\ ^3P_2$	4.50	4.84e+03
Al II	3901.7690	$3s\ 3p\ ^1P_1 - 3p^2\ ^1D_2$	4.50	8.88e+02
C II	3920.0769	$2s^2\ 3p\ ^2P_{1/2} - 2s^2\ 4s\ ^2S_{1/2}$	4.55	4.66e+01
C II	3921.7920	$2s^2\ 3p\ ^2P_{3/2} - 2s^2\ 4s\ ^2S_{1/2}$	4.55	9.31e+01
Ca II	3934.7771	$3p^6\ 4s\ ^2S_{1/2} - 3p^6\ 4p\ ^2P_{3/2}$	4.50	2.29e+02
O II	3955.4771	$2s^2\ 2p^2\ 3s\ ^2P_{1/2} - 2s^2\ 2p^2\ 3p\ ^2P_{1/2}$	4.65	4.26e+01
Ca II	3969.5911	$3p^6\ 4s\ ^2S_{1/2} - 3p^6\ 4p\ ^2P_{1/2}$	4.50	1.14e+02
O II	3974.3889	$2s^2\ 2p^2\ 3s\ ^2P_{3/2} - 2s^2\ 2p^2\ 3p\ ^2P_{3/2}$	4.65	1.05e+02
N II	3996.1270	$2s^2\ 2p\ 3s\ ^1P_1 - 2s^2\ 2p\ 3p\ ^1D_2$	4.60	4.39e+01
He I	4027.3240	$1s\ 2p\ ^3P_2 - 1s\ 5d\ ^3D_3$	4.50	3.56e+02
He I	4027.3240	$1s\ 2p\ ^3P_2 - 1s\ 5d\ ^3D_2$	4.50	6.24e+01
He I	4027.3340	$1s\ 2p\ ^3P_1 - 1s\ 5d\ ^3D_1$	4.50	6.68e+01
He I	4027.3359	$1s\ 2p\ ^3P_1 - 1s\ 5d\ ^3D_2$	4.50	1.87e+02
He I	4027.4951	$1s\ 2p\ ^3P_0 - 1s\ 5d\ ^3D_1$	4.50	8.90e+01
O II	4077.0061	$2s^2\ 2p^2\ 3p\ ^4D_{7/2} - 2s^2\ 2p^2\ 3d\ ^4F_{9/2}$	4.65	4.03e+01
Ca XIII	4087.4719	$2s^2\ 2p^4\ ^3P_2 - 2s^2\ 2p^4\ ^3P_1$	6.60	8.82e+01
N III	4098.5132	$2s^2\ 3s\ ^2S_{1/2} - 2s^2\ 3p\ ^2P_{3/2}$	4.85	5.10e+01
He I	4121.9731	$1s\ 2p\ ^3P_2 - 1s\ 5s\ ^3S_1$	4.50	1.71e+02
He I	4121.9858	$1s\ 2p\ ^3P_1 - 1s\ 5s\ ^3S_1$	4.50	1.02e+02
He I	4122.1538	$1s\ 2p\ ^3P_0 - 1s\ 5s\ ^3S_1$	4.50	3.42e+01
C II	4268.2021	$2s^2\ 3d\ ^2D_{3/2} - 2s^2\ 4f\ ^2F_{5/2}$	4.55	1.28e+02
C II	4268.4619	$2s^2\ 3d\ ^2D_{5/2} - 2s^2\ 4f\ ^2F_{7/2}$	4.55	2.74e+02
H I	4341.6470	$2p\ ^2P_{1/2} - 5d\ ^2D_{3/2}$	4.50	1.13e+03
H I	4341.6509	$2p\ ^2P_{1/2} - 5s\ ^2S_{1/2}$	4.50	4.85e+02

Table 1: (continued)

Ion	$\lambda$ (Å)	Transition	$T_{\max}$	Int
H I	4341.6538	$2s^2 S_{1/2} - 5p^2 P_{3/2}$	4.50	6.21e+02
H I	4341.6582	$2s^2 S_{1/2} - 5p^2 P_{1/2}$	4.50	3.10e+02
H I	4341.7148	$2p^2 P_{3/2} - 5d^2 D_{5/2}$	4.50	2.03e+03
H I	4341.7158	$2p^2 P_{3/2} - 5d^2 D_{3/2}$	4.50	2.25e+02
H I	4341.7202	$2p^2 P_{3/2} - 5s^2 S_{1/2}$	4.50	9.69e+02
O II	4350.6450	$2s^2 2p^2 3s^4 P_{5/2} - 2s^2 2p^2 3p^4 P_{5/2}$	4.65	4.71e+01
O II	4352.4810	$2s^2 2p^2 3s^2 D_{5/2} - 2s^2 2p^2 3p^2 D_{5/2}$	4.65	5.23e+01
He I	4389.1621	$1s 2p^1 P_1 - 1s 5d^1 D_2$	4.50	9.90e+01
Ar XIV	4413.8032	$2s^2 2p^2 P_{1/2} - 2s^2 2p^2 P_{3/2}$	6.60	2.38e+02
O II	4416.1421	$2s^2 2p^2 3s^2 P_{3/2} - 2s^2 2p^2 3p^2 D_{5/2}$	4.65	2.00e+02
O II	4418.2100	$2s^2 2p^2 3s^2 P_{1/2} - 2s^2 2p^2 3p^2 D_{3/2}$	4.65	1.12e+02
He I	4438.7988	$1s 2p^1 P_1 - 1s 5s^1 S_0$	4.50	6.65e+01
He I	4472.7290	$1s 2p^3 P_2 - 1s 4d^3 D_2$	4.50	2.03e+02
He I	4472.7290	$1s 2p^3 P_2 - 1s 4d^3 D_3$	4.50	1.16e+03
He I	4472.7402	$1s 2p^3 P_1 - 1s 4d^3 D_1$	4.50	2.16e+02
He I	4472.7441	$1s 2p^3 P_1 - 1s 4d^3 D_2$	4.50	6.06e+02
He I	4472.9380	$1s 2p^3 P_0 - 1s 4d^3 D_1$	4.50	2.87e+02
Si III	4553.8789	$3s 4s^3 S_1 - 3s 4p^3 P_2$	4.70	3.93e+02
Si III	4569.1099	$3s 4s^3 S_1 - 3s 4p^3 P_1$	4.70	2.11e+02
Si III	4576.0308	$3s 4s^3 S_1 - 3s 4p^3 P_0$	4.70	7.39e+01
O II	4592.2539	$2s^2 2p^2 3s^2 D_{5/2} - 2s^2 2p^2 3p^2 F_{7/2}$	4.65	4.51e+01
O II	4640.1558	$2s^2 2p^2 3s^4 P_{1/2} - 2s^2 2p^2 3p^4 D_{3/2}$	4.65	4.13e+01
O II	4643.1079	$2s^2 2p^2 3s^4 P_{3/2} - 2s^2 2p^2 3p^4 D_{5/2}$	4.65	1.01e+02
C III	4648.7202	$2s 3s^3 S_1 - 2s 3p^3 P_2$	4.80	8.97e+02
O II	4650.4492	$2s^2 2p^2 3s^4 P_{5/2} - 2s^2 2p^2 3p^4 D_{7/2}$	4.65	1.83e+02
C III	4651.5518	$2s 3s^3 S_1 - 2s 3p^3 P_1$	4.80	5.25e+02
O II	4652.1362	$2s^2 2p^2 3s^4 P_{1/2} - 2s^2 2p^2 3p^4 D_{1/2}$	4.65	3.95e+01
C III	4652.7861	$2s 3s^3 S_1 - 2s 3p^3 P_0$	4.80	1.79e+02
O II	4662.9390	$2s^2 2p^2 3s^4 P_{3/2} - 2s^2 2p^2 3p^4 D_{3/2}$	4.65	4.72e+01
Al II	4664.3530	$3p^2^1 D_2 - 3s 4p^1 P_1$	4.50	7.22e+01
O II	4677.5532	$2s^2 2p^2 3s^4 P_{5/2} - 2s^2 2p^2 3p^4 D_{5/2}$	4.65	3.56e+01
He II	4686.8359	$3s^2 S_{1/2} - 4p^2 P_{3/2}$	4.90	4.19e+01
He II	4687.0151	$3d^2 D_{3/2} - 4f^2 F_{5/2}$	4.90	2.88e+02
He II	4687.0161	$3p^2 P_{3/2} - 4d^2 D_{5/2}$	4.90	1.99e+02
He II	4687.0688	$3p^2 P_{1/2} - 4d^2 D_{3/2}$	4.90	1.11e+02
He II	4687.1162	$3d^2 D_{5/2} - 4f^2 F_{7/2}$	4.90	4.08e+02
He II	4687.2168	$3p^2 P_{3/2} - 4s^2 S_{1/2}$	4.90	1.67e+02
He II	4687.2300	$3p^2 P_{1/2} - 4s^2 S_{1/2}$	4.90	8.35e+01
He I	4714.4580	$1s 2p^3 P_2 - 1s 4s^3 S_1$	4.50	1.37e+02
He I	4714.4751	$1s 2p^3 P_1 - 1s 4s^3 S_1$	4.50	8.19e+01
Ni XVII	4750.1431	$3s 3p^3 P_1 - 3s 3p^3 P_2$	6.70	5.95e+01
H I	4862.6372	$2p^2 P_{1/2} - 4d^2 D_{3/2}$	4.50	2.59e+03
H I	4862.6450	$2s^2 S_{1/2} - 4p^2 P_{3/2}$	4.50	1.28e+03
H I	4862.6460	$2p^2 P_{1/2} - 4s^2 S_{1/2}$	4.50	1.14e+03
H I	4862.6558	$2s^2 S_{1/2} - 4p^2 P_{1/2}$	4.50	6.37e+02
H I	4862.7202	$2p^2 P_{3/2} - 4d^2 D_{5/2}$	4.50	4.66e+03
H I	4862.7231	$2p^2 P_{3/2} - 4d^2 D_{3/2}$	4.50	5.19e+02
H I	4862.7329	$2p^2 P_{3/2} - 4s^2 S_{1/2}$	4.50	2.28e+03
He I	4923.3052	$1s 2p^1 P_1 - 1s 4d^1 D_2$	4.50	4.17e+02

Table 1: (continued)

Ion	$\lambda$ (Å)	Transition	$T_{\max}$	Int
He I	5017.0771	1s 2s $^1S_0$ - 1s 3p $^1P_1$	4.50	4.04e+01
He I	5049.1460	1s 2p $^1P_1$ - 1s 4s $^1S_0$	4.50	1.93e+02
C II	5134.3770	2s 2p 3s $^4P_{1/2}$ - 2s 2p 3p $^4P_{3/2}$	4.55	3.84e+01
C II	5134.7119	2s 2p 3s $^4P_{3/2}$ - 2s 2p 3p $^4P_{5/2}$	4.55	4.21e+01
C II	5144.9268	2s 2p 3s $^4P_{3/2}$ - 2s 2p 3p $^4P_{1/2}$	4.55	3.92e+01
C II	5146.5981	2s 2p 3s $^4P_{5/2}$ - 2s 2p 3p $^4P_{5/2}$	4.55	9.86e+01
C II	5152.5200	2s 2p 3s $^4P_{5/2}$ - 2s 2p 3p $^4P_{3/2}$	4.55	4.40e+01
Fe XIV	5304.4771	3s <sup>2</sup> 3p $^2P_{1/2}$ - 3s <sup>2</sup> 3p $^2P_{3/2}$	6.35	8.74e+02
Ca XV	5445.4370	2s <sup>2</sup> 2p <sup>2</sup> $^3P_1$ - 2s <sup>2</sup> 2p <sup>2</sup> $^3P_2$	6.75	2.12e+02
Ca XV	5695.0850	2s <sup>2</sup> 2p <sup>2</sup> $^3P_0$ - 2s <sup>2</sup> 2p <sup>2</sup> $^3P_1$	6.70	4.22e+02
He I	5877.2271	1s 2p $^3P_2$ - 1s 3d $^3D_1$	4.50	8.41e+01
He I	5877.2432	1s 2p $^3P_2$ - 1s 3d $^3D_3$	4.50	6.84e+03
He I	5877.2432	1s 2p $^3P_2$ - 1s 3d $^3D_2$	4.50	1.10e+03
He I	5877.2539	1s 2p $^3P_1$ - 1s 3d $^3D_1$	4.50	1.26e+03
He I	5877.2690	1s 2p $^3P_1$ - 1s 3d $^3D_2$	4.50	3.31e+03
He I	5877.5952	1s 2p $^3P_0$ - 1s 3d $^3D_1$	4.50	1.68e+03
Ar XV	5945.5508	2s 2p $^3P_1$ - 2s 2p $^3P_2$	6.70	3.34e+01
Fe X	6376.2900	3s <sup>2</sup> 3p <sup>5</sup> $^2P_{3/2}$ - 3s <sup>2</sup> 3p <sup>5</sup> $^2P_{1/2}$	6.05	8.67e+01
H I	6564.5229	2p $^2P_{1/2}$ - 3d $^2D_{3/2}$	4.50	1.30e+04
H I	6564.5381	2s $^2S_{1/2}$ - 3p $^2P_{3/2}$	4.50	3.60e+03
H I	6564.5640	2p $^2P_{1/2}$ - 3s $^2S_{1/2}$	4.50	5.67e+03
H I	6564.5840	2s $^2S_{1/2}$ - 3p $^2P_{1/2}$	4.50	1.80e+03
H I	6564.6650	2p $^2P_{3/2}$ - 3d $^2D_{5/2}$	4.50	2.34e+04
H I	6564.6802	2p $^2P_{3/2}$ - 3d $^2D_{3/2}$	4.50	2.60e+03
H I	6564.7222	2p $^2P_{3/2}$ - 3s $^2S_{1/2}$	4.50	1.14e+04
C II	6579.8691	2s <sup>2</sup> 3s $^2S_{1/2}$ - 2s <sup>2</sup> 3p $^2P_{3/2}$	4.50	1.18e+02
C II	6584.7002	2s <sup>2</sup> 3s $^2S_{1/2}$ - 2s <sup>2</sup> 3p $^2P_{1/2}$	4.50	2.12e+02
O II	6642.8848	2s <sup>2</sup> 2p <sup>2</sup> 3s $^2P_{1/2}$ - 2s <sup>2</sup> 2p <sup>2</sup> 3p $^2S_{1/2}$	4.60	3.42e+01
He I	6679.9951	1s 2p $^1P_1$ - 1s 3d $^1D_2$	4.50	1.29e+03
Ni XV	6703.5361	3s <sup>2</sup> 3p <sup>2</sup> $^3P_0$ - 3s <sup>2</sup> 3p <sup>2</sup> $^3P_1$	6.45	4.00e+01
O II	6723.2769	2s <sup>2</sup> 2p <sup>2</sup> 3s $^2P_{3/2}$ - 2s <sup>2</sup> 2p <sup>2</sup> 3p $^2S_{1/2}$	4.60	6.23e+01
C II	6785.7798	2s 2p 3s $^4P_{5/2}$ - 2s 2p 3p $^4D_{7/2}$	4.55	6.23e+01
C II	6789.0830	2s 2p 3s $^4P_{1/2}$ - 2s 2p 3p $^4D_{1/2}$	4.55	3.78e+01
C II	6793.3398	2s 2p 3s $^4P_{3/2}$ - 2s 2p 3p $^4D_{3/2}$	4.55	3.51e+01
Al II	7044.0391	3s 4s $^3S_1$ - 3s 4p $^3P_2$	4.50	1.16e+02
Al II	7058.6572	3s 4s $^3S_1$ - 3s 4p $^3P_1$	4.50	6.88e+01
Fe XV	7062.1470	3s 3p $^3P_1$ - 3s 3p $^3P_2$	6.40	1.45e+02
He I	7067.1270	1s 2p $^3P_2$ - 1s 3s $^3S_1$	4.50	4.09e+03
He I	7067.1650	1s 2p $^3P_1$ - 1s 3s $^3S_1$	4.50	2.46e+03
He I	7067.6582	1s 2p $^3P_0$ - 1s 3s $^3S_1$	4.50	8.19e+02
He I	7283.3569	1s 2p $^1P_1$ - 1s 3s $^1S_0$	4.50	9.32e+02
S XII	7613.0732	2s <sup>2</sup> 2p $^2P_{1/2}$ - 2s <sup>2</sup> 2p $^2P_{3/2}$	6.40	1.84e+02
Fe XI	7894.0308	3s <sup>2</sup> 3p <sup>4</sup> $^3P_2$ - 3s <sup>2</sup> 3p <sup>4</sup> $^3P_1$	6.15	6.91e+01
Ar XIII	8341.9531	2s <sup>2</sup> 2p <sup>2</sup> $^3P_1$ - 2s <sup>2</sup> 2p <sup>2</sup> $^3P_2$	6.55	5.15e+01