

Predicted XUV Line Intensities
CHIANTI database - Version 10.0.2

Calculated with Constant pressure= 1.00e+16 (cm⁻³ K)

***** to ***** Å

Number of lines: 184

Minimum intensity = 1.00000

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

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

Calculated: Wed Jun 8 14:49:04 2022

Ionization Fractions file: chianti.ioneq

ionization equilibrium: CHIANTI

produced as part of the CHIANTI atomic data base collaboration

Created on Fri Oct 9 11:46:20 2020

Elemental Abundance file: sun_photospheric_2015_scott.abund

created for the CHIANTI atomic database by Peter Young, 16-Aug-2017

abundances (F to Ca):

Scott et al., 2015, A&A, 573, A25

DOI: 10.1051/0004-6361/201424109

abundances (Sc to Ni):

Scott et al., 2015, A&A, 573, A26

DOI: 10.1051/0004-6361/201424110

abundances (Cu & Zn):

Grevesse et al., 2015, A&A, 573, A27

DOI: 10.1051/0004-6361/201424111

abundances (other elements):

Asplund, M., Grevesse, N., Sauval, A.J., & Scott, P. 2009, ARAA, 47, 481

DOI: 10.1146/annurev.astro.46.060407.145222

comment:

This updates the Asplund et al. (2009) results for elements F and higher. The
changes
are mostly small.

Minimum abundance = 8.51138e-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	λ (Å)	Transition	T_{\max}	Int
Al II	10079.0000	3s 3d 3D_3 - 3s 4p 3P_2	4.5	7.52e+00
Al II	10080.0000	3s 3d 3D_2 - 3s 4p 3P_2	4.5	1.34e+00
Al II	10110.0000	3s 3d 3D_2 - 3s 4p 3P_1	4.5	3.95e+00
Al II	10111.0000	3s 3d 3D_1 - 3s 4p 3P_1	4.5	1.32e+00
Al II	10125.0000	3s 3d 3D_1 - 3s 4p 3P_0	4.5	1.76e+00
He II	10125.6279	4p $^2P_{1/2}$ - 5d $^2D_{3/2}$	4.9	7.15e+00
He II	10125.6865	4s $^2S_{1/2}$ - 5p $^2P_{3/2}$	4.9	3.60e+00
He II	10125.9805	4p $^2P_{1/2}$ - 5s $^2S_{1/2}$	4.9	9.39e+00
He II	10126.0723	4s $^2S_{1/2}$ - 5p $^2P_{1/2}$	4.9	1.80e+00
He II	10126.2490	4d $^2D_{3/2}$ - 5f $^2F_{5/2}$	4.9	5.86e+01
He II	10126.2500	4p $^2P_{3/2}$ - 5d $^2D_{5/2}$	4.9	1.29e+01
He II	10126.3779	4p $^2P_{3/2}$ - 5d $^2D_{3/2}$	4.9	1.43e+00
He II	10126.4355	4f $^2F_{5/2}$ - 5g $^2G_{7/2}$	4.9	1.99e+01
He II	10126.4355	4d $^2D_{5/2}$ - 5f $^2F_{7/2}$	4.9	8.36e+01
He II	10126.4990	4d $^2D_{5/2}$ - 5f $^2F_{5/2}$	4.9	4.19e+00
He II	10126.5234	4f $^2F_{7/2}$ - 5g $^2G_{9/2}$	4.9	2.49e+01
He II	10126.7314	4p $^2P_{3/2}$ - 5s $^2S_{1/2}$	4.9	1.88e+01
Ar XIII	10149.0000	2s ² 2p ² 3P_0 - 2s ² 2p ² 3P_1	6.6	6.80e+01
S XIII	10301.0000	2s 2p 3P_1 - 2s 2p 3P_2	6.5	2.90e+01
O III	10325.0000	2s ² 2p 4s 3P_2 - 2s ² 2p 4p 3D_3	5.1	1.06e+00
Cl XII	10651.0000	2s ² 2p ² 3P_1 - 2s ² 2p ² 3P_2	6.4	2.11e+00
C I	10685.9814	2p 3s 3P_1 - 2p 3p 3D_2	4.5	6.67e+00
C I	10688.2480	2p 3s 3P_0 - 2p 3p 3D_1	4.5	3.17e+00
C I	10694.1768	2p 3s 3P_2 - 2p 3p 3D_3	4.5	1.27e+01
C I	10710.2119	2p 3s 3P_1 - 2p 3p 3D_1	4.5	2.30e+00
C I	10732.4834	2p 3s 3P_2 - 2p 3p 3D_2	4.5	2.09e+00
Fe XIII	10749.1055	3s ² 3p ² 3P_0 - 3s ² 3p ² 3P_1	6.3	5.85e+01
Fe XIII	10800.7695	3s ² 3p ² 3P_1 - 3s ² 3p ² 3P_2	6.3	5.83e+01
He I	10832.0576	1s 2s 3S_1 - 1s 2p 3P_0	4.5	2.06e+04
He I	10833.2168	1s 2s 3S_1 - 1s 2p 3P_1	4.5	6.15e+04
He I	10833.3066	1s 2s 3S_1 - 1s 2p 3P_2	4.5	1.03e+05
Mg II	10917.2734	3d $^2D_{5/2}$ - 4p $^2P_{3/2}$	4.5	2.98e+00
Mg II	10954.8252	3d $^2D_{3/2}$ - 4p $^2P_{1/2}$	4.5	1.65e+00
Al II	11252.0000	3s 4d 1D_2 - 3s 5f 1F_3	4.5	1.04e+00
Si III	11339.0000	3s 5s 3S_1 - 3s 5p 3P_0	4.8	1.23e+00
Si III	11340.0000	3s 5s 3S_1 - 3s 5p 3P_1	4.8	3.18e+00
Si III	11347.0000	3s 5s 3S_1 - 3s 5p 3P_2	4.8	5.32e+00
Si II	11718.0820	3s ² 5p $^2P_{1/2}$ - 3s ² 5d $^2D_{3/2}$	4.5	3.22e+00
Si II	11751.6133	3s ² 5p $^2P_{3/2}$ - 3s ² 5d $^2D_{5/2}$	4.5	5.74e+00
C I	11756.5371	2p 3p 3D_3 - 2p 3d 3F_4	4.5	1.46e+00
C II *	11757.9189	2s 2p 4s $^4P_{1/2}$ - 2s 2p 4p $^4P_{3/2}$	4.7	5.43e+00
C II *	11760.4248	2s 2p 4s $^4P_{3/2}$ - 2s 2p 4p $^4P_{5/2}$	4.7	5.80e+00
C II *	11775.5068	2s 2p 4s $^4P_{1/2}$ - 2s 2p 4p $^4P_{1/2}$	4.7	1.08e+00
C II *	11788.6953	2s 2p 4s $^4P_{3/2}$ - 2s 2p 4p $^4P_{3/2}$	4.7	1.73e+00
C II *	11806.3750	2s 2p 4s $^4P_{3/2}$ - 2s 2p 4p $^4P_{1/2}$	4.7	5.41e+00
C II *	11812.1064	2s 2p 4s $^4P_{5/2}$ - 2s 2p 4p $^4P_{5/2}$	4.7	1.35e+01
C II *	11840.6250	2s 2p 4s $^4P_{5/2}$ - 2s 2p 4p $^4P_{3/2}$	4.7	5.91e+00
He I	11972.3340	1s 3p 3P_2 - 1s 5d 3D_3	4.5	3.65e+01
He I	11972.3340	1s 3p 3P_2 - 1s 5d 3D_2	4.5	6.37e+00

Table 1: (continued)

Ion	λ (Å)	Transition	T_{\max}	Int
He I	11972.3516	1s 3p 3P_1 - 1s 5d 3D_1	4.5	6.83e+00
He I	11972.3662	1s 3p 3P_1 - 1s 5d 3D_2	4.5	1.91e+01
He I	11972.7402	1s 3p 3P_0 - 1s 5d 3D_1	4.5	9.12e+00
C III	11984.0000	2s 4s 3S_1 - 2s 4p 3P_2	4.9	3.44e+00
C III	11991.0000	2s 4s 3S_1 - 2s 4p 3P_1	4.9	2.06e+00
S IX	12523.4824	2s ² 2p ⁴ 3P_2 - 2s ² 2p ⁴ 3P_1	6.2	8.89e+00
He I	12530.7461	1s 3s 3S_1 - 1s 4p 3P_0	4.5	6.72e+00
He I	12530.9180	1s 3s 3S_1 - 1s 4p 3P_1	4.5	2.02e+01
He I	12530.9326	1s 3s 3S_1 - 1s 4p 3P_2	4.5	3.36e+01
He I	12788.4160	1s 3d 3D_2 - 1s 5f 3F_2	4.5	6.74e+00
He I	12788.4199	1s 3d 3D_3 - 1s 5f 3F_4	4.5	7.78e+01
He I	12788.4248	1s 3d 3D_3 - 1s 5f 3F_3	4.5	6.74e+00
He I	12788.4268	1s 3d 3D_2 - 1s 5f 3F_3	4.5	5.38e+01
He I	12788.4873	1s 3d 3D_1 - 1s 5f 3F_2	4.5	3.63e+01
He I	12794.0000	1s 3d 1D_2 - 1s 5f 1F_3	4.5	2.01e+01
H I	12821.4316	3p $^2P_{1/2}$ - 5d $^2D_{3/2}$	4.5	1.38e+02
H I	12821.4502	3s $^2S_{1/2}$ - 5p $^2P_{3/2}$	4.5	6.97e+01
H I	12821.4658	3p $^2P_{1/2}$ - 5s $^2S_{1/2}$	4.5	1.15e+02
H I	12821.4883	3s $^2S_{1/2}$ - 5p $^2P_{1/2}$	4.5	3.48e+01
H I	12821.5957	3d $^2D_{3/2}$ - 5f $^2F_{5/2}$	4.5	3.24e+02
H I	12821.5957	3p $^2P_{3/2}$ - 5d $^2D_{5/2}$	4.5	2.47e+02
H I	12821.6094	3p $^2P_{3/2}$ - 5d $^2D_{3/2}$	4.5	2.75e+01
H I	12821.6436	3p $^2P_{3/2}$ - 5s $^2S_{1/2}$	4.5	2.30e+02
H I	12821.6475	3d $^2D_{3/2}$ - 5p $^2P_{1/2}$	4.5	3.18e+00
H I	12821.6494	3d $^2D_{5/2}$ - 5f $^2F_{7/2}$	4.5	4.62e+02
H I	12821.6553	3d $^2D_{5/2}$ - 5f $^2F_{5/2}$	4.5	2.32e+01
H I	12821.6680	3d $^2D_{5/2}$ - 5p $^2P_{3/2}$	4.5	5.74e+00
He I	12849.4570	1s 3p 3P_2 - 1s 5s 3S_1	4.5	3.55e+01
He I	12849.4932	1s 3p 3P_1 - 1s 5s 3S_1	4.5	2.14e+01
He I	12849.9414	1s 3p 3P_0 - 1s 5s 3S_1	4.5	7.12e+00
He I	12971.9766	1s 3p 1P_1 - 1s 5d 1D_2	4.5	1.27e+01
He I	12988.4053	1s 3d 3D_1 - 1s 5p 3P_0	4.5	1.55e+00
He I	12988.4248	1s 3d 3D_2 - 1s 5p 3P_1	4.5	3.48e+00
He I	12988.4297	1s 3d 3D_3 - 1s 5p 3P_2	4.5	6.53e+00
He I	12988.4316	1s 3d 3D_2 - 1s 5p 3P_2	4.5	1.17e+00
He I	12988.4990	1s 3d 3D_1 - 1s 5p 3P_1	4.5	1.16e+00
Ca XIV	13147.8613	2s ² 2p ³ $^2D_{3/2}$ - 2s ² 2p ³ $^2D_{5/2}$	6.7	1.69e+00
N II	13348.4785	2s ² 2p 4s 1P_1 - 2s ² 2p 4p 1D_2	4.7	1.40e+00
He I	13415.3525	1s 3p 1P_1 - 1s 5s 1S_0	4.5	1.47e+01
Si II	13700.1133	3s ² 5p $^2P_{3/2}$ - 3s ² 6s $^2S_{1/2}$	4.5	1.57e+00
Cl XII	13812.0000	2s ² 2p ² 3P_0 - 2s ² 2p ² 3P_1	6.4	1.68e+00
S XI	13927.0000	2s ² 2p ² 3P_1 - 2s ² 2p ² 3P_2	6.3	2.29e+01
Al II	14082.0000	3s 5p 3P_2 - 3s 5d 3D_3	4.5	1.86e+00
Si X	14304.7188	2s ² 2p $^2P_{1/2}$ - 2s ² 2p $^2P_{3/2}$	6.2	1.65e+01
C I	14546.4717	2p 3s 1P_1 - 2p 3p 1P_1	4.5	6.79e+00
He I	15087.7725	1s 3s 1S_0 - 1s 4p 1P_1	4.5	1.21e+00
Si II	16911.4316	3s ² 5s $^2S_{1/2}$ - 3s ² 5p $^2P_{3/2}$	4.5	6.56e+00
Si II	16981.8203	3s ² 5s $^2S_{1/2}$ - 3s ² 5p $^2P_{1/2}$	4.5	3.25e+00
He I	17006.9785	1s 3p 3P_2 - 1s 4d 3D_1	4.5	1.05e+00

Table 1: (continued)

Ion	λ (Å)	Transition	T_{\max}	Int
He I	17007.0332	1s 3p 3P_2 - 1s 4d 3D_2	4.5	1.47e+01
He I	17007.0371	1s 3p 3P_2 - 1s 4d 3D_3	4.5	8.42e+01
He I	17007.0430	1s 3p 3P_1 - 1s 4d 3D_1	4.5	1.56e+01
He I	17007.0977	1s 3p 3P_1 - 1s 4d 3D_2	4.5	4.41e+01
He I	17007.8262	1s 3p 3P_0 - 1s 4d 3D_1	4.5	2.09e+01
Al II	17766.0000	3s 5s 3S_1 - 3s 5p 3P_2	4.5	4.41e+00
Al II	17807.0000	3s 5s 3S_1 - 3s 5p 3P_1	4.5	2.60e+00
He I	18690.3965	1s 3d 3D_2 - 1s 4f 3F_2	4.5	2.04e+01
He I	18690.4258	1s 3d 3D_3 - 1s 4f 3F_4	4.5	2.36e+02
He I	18690.4492	1s 3d 3D_3 - 1s 4f 3F_3	4.5	2.72e+00
He I	18690.4531	1s 3d 3D_2 - 1s 4f 3F_3	4.5	2.17e+01
He I	18690.5508	1s 3d 3D_1 - 1s 4f 3F_2	4.5	1.10e+02
He I	18702.3164	1s 3d 1D_2 - 1s 4f 1F_3	4.5	5.07e+01
C II *	18708.3633	2s 2p 4p $^4D_{5/2}$ - 2s 2p 4d $^4F_{7/2}$	4.7	1.29e+00
C II *	18726.5918	2s 2p 4p $^4D_{7/2}$ - 2s 2p 4d $^4F_{9/2}$	4.7	1.92e+00
H I	18755.8047	3p $^2P_{1/2}$ - 4d $^2D_{3/2}$	4.5	2.29e+02
H I	18755.8418	3s $^2S_{1/2}$ - 4p $^2P_{3/2}$	4.5	1.05e+02
H I	18755.9473	3p $^2P_{1/2}$ - 4s $^2S_{1/2}$	4.5	2.10e+02
H I	18756.0020	3s $^2S_{1/2}$ - 4p $^2P_{1/2}$	4.5	5.22e+01
H I	18756.1309	3d $^2D_{3/2}$ - 4f $^2F_{5/2}$	4.5	7.52e+02
H I	18756.1309	3p $^2P_{3/2}$ - 4d $^2D_{5/2}$	4.5	4.13e+02
H I	18756.1836	3d $^2D_{3/2}$ - 4p $^2P_{3/2}$	4.5	1.19e+00
H I	18756.1836	3p $^2P_{3/2}$ - 4d $^2D_{3/2}$	4.5	4.57e+01
H I	18756.2285	3d $^2D_{5/2}$ - 4f $^2F_{7/2}$	4.5	1.08e+03
H I	18756.2578	3d $^2D_{5/2}$ - 4f $^2F_{5/2}$	4.5	5.36e+01
H I	18756.3105	3d $^2D_{5/2}$ - 4p $^2P_{3/2}$	4.5	1.07e+01
H I	18756.3281	3p $^2P_{3/2}$ - 4s $^2S_{1/2}$	4.5	4.19e+02
H I	18756.3418	3d $^2D_{3/2}$ - 4p $^2P_{1/2}$	4.5	5.94e+00
He I	19094.5703	1s 3p 1P_1 - 1s 4d 1D_2	4.5	3.93e+01
S XI	19201.0000	2s ² 2p ² 3P_0 - 2s ² 2p ² 3P_1	6.3	8.53e+00
Si XI	19365.0000	2s 2p 3P_1 - 2s 2p 3P_2	6.3	3.44e+00
He I	19548.1758	1s 3d 3D_1 - 1s 4p 3P_0	4.5	4.23e+00
He I	19548.4277	1s 3d 3D_2 - 1s 4p 3P_1	4.5	9.56e+00
He I	19548.4570	1s 3d 3D_3 - 1s 4p 3P_2	4.5	1.78e+01
He I	19548.4629	1s 3d 3D_2 - 1s 4p 3P_2	4.5	3.17e+00
He I	19548.5957	1s 3d 3D_1 - 1s 4p 3P_1	4.5	3.18e+00
Si VI	19630.0449	2s ² 2p ⁵ $^2P_{3/2}$ - 2s ² 2p ⁵ $^2P_{1/2}$	5.7	1.71e+00
He I	20586.9004	1s 2s 1S_0 - 1s 2p 1P_1	4.5	7.05e+00
He I	21125.7852	1s 3p 3P_2 - 1s 4s 3S_1	4.5	1.94e+01
He I	21125.8828	1s 3p 3P_1 - 1s 4s 3S_1	4.5	1.17e+01
He I	21127.0918	1s 3p 3P_0 - 1s 4s 3S_1	4.5	3.89e+00
He I	21137.7969	1s 3p 1P_1 - 1s 4s 1S_0	4.5	3.35e+01
Ca XIII	22650.0566	2s ² 2p ⁴ 3P_1 - 2s ² 2p ⁴ 3P_0	6.6	1.72e+00
Al II	23595.0000	3s 4d 3D_3 - 3s 5p 3P_2	4.5	1.25e+00
Si IX	25846.0000	2s ² 2p ² 3P_1 - 2s ² 2p ² 3P_2	6.1	1.28e+00
He I	28550.2695	1s 4s 3S_1 - 1s 5p 3P_2	4.5	1.65e+00
He I	37035.5156	1s 4p 3P_2 - 1s 5d 3D_3	4.5	4.43e+00
He I	37035.6367	1s 4p 3P_1 - 1s 5d 3D_2	4.5	2.32e+00
He I	37037.0117	1s 4p 3P_0 - 1s 5d 3D_1	4.5	1.11e+00

Table 1: (continued)

Ion	λ (Å)	Transition	T_{\max}	Int
He I	40377.2188	1s 4d 3D_2 - 1s 5f 3F_2	4.5	1.20e+00
He I	40377.2695	1s 4d 3D_3 - 1s 5f 3F_4	4.5	1.39e+01
He I	40377.3164	1s 4d 3D_3 - 1s 5f 3F_3	4.5	1.20e+00
He I	40377.3359	1s 4d 3D_2 - 1s 5f 3F_3	4.5	9.57e+00
He I	40377.5312	1s 4d 3D_1 - 1s 5f 3F_2	4.5	6.46e+00
He I	40409.3477	1s 4d 1D_2 - 1s 5f 1F_3	4.5	3.58e+00
He I	40490.0742	1s 4f 3F_3 - 1s 5g 3G_4	4.5	6.10e+00
He I	40490.1406	1s 4f 3F_4 - 1s 5g 3G_5	4.5	7.95e+00
He I	40490.2383	1s 4f 3F_2 - 1s 5g 3G_3	4.5	4.50e+00
He I	40490.3555	1s 4f 1F_3 - 1s 5g 1G_4	4.5	2.56e+00
H I	40521.8711	4p $^2P_{1/2}$ - 5d $^2D_{3/2}$	4.5	1.91e+01
H I	40521.9375	4s $^2S_{1/2}$ - 5p $^2P_{3/2}$	4.5	9.91e+00
H I	40522.2188	4p $^2P_{1/2}$ - 5s $^2S_{1/2}$	4.5	2.60e+01
H I	40522.3164	4s $^2S_{1/2}$ - 5p $^2P_{1/2}$	4.5	4.95e+00
H I	40522.4805	4p $^2P_{3/2}$ - 5d $^2D_{5/2}$	4.5	3.44e+01
H I	40522.4805	4d $^2D_{3/2}$ - 5f $^2F_{5/2}$	4.5	5.83e+01
H I	40522.6133	4p $^2P_{3/2}$ - 5d $^2D_{3/2}$	4.5	3.82e+00
H I	40522.6602	4d $^2D_{5/2}$ - 5f $^2F_{7/2}$	4.5	8.31e+01
H I	40522.6602	4f $^2F_{5/2}$ - 5g $^2G_{7/2}$	4.5	5.66e+01
H I	40522.7266	4d $^2D_{5/2}$ - 5f $^2F_{5/2}$	4.5	4.16e+00
H I	40522.7617	4f $^2F_{7/2}$ - 5g $^2G_{9/2}$	4.5	7.60e+01
H I	40522.7930	4f $^2F_{7/2}$ - 5g $^2G_{7/2}$	4.5	4.05e+00
H I	40522.8594	4f $^2F_{7/2}$ - 5d $^2D_{5/2}$	4.5	1.11e+00
H I	40522.8594	4d $^2D_{5/2}$ - 5p $^2P_{3/2}$	4.5	2.29e+00
H I	40522.9570	4p $^2P_{3/2}$ - 5s $^2S_{1/2}$	4.5	5.20e+01
H I	40522.9883	4d $^2D_{3/2}$ - 5p $^2P_{1/2}$	4.5	1.26e+00
He I	41227.3047	1s 4p 1P_1 - 1s 5d 1D_2	4.5	1.84e+00
He I	42440.6797	1s 4d 3D_2 - 1s 5p 3P_1	4.5	1.30e+00
He I	42440.7344	1s 4d 3D_3 - 1s 5p 3P_2	4.5	2.43e+00
He I	42954.1094	1s 3s 3S_1 - 1s 3p 3P_0	4.5	1.04e+01
He I	42959.1094	1s 3s 3S_1 - 1s 3p 3P_1	4.5	3.12e+01
He I	42959.5156	1s 3s 3S_1 - 1s 3p 3P_2	4.5	5.18e+01
He I	46066.0078	1s 4p 1P_1 - 1s 5s 1S_0	4.5	3.18e+00
He I	46949.4375	1s 4p 3P_2 - 1s 5s 3S_1	4.5	7.30e+00
He I	46949.6367	1s 4p 3P_1 - 1s 5s 3S_1	4.5	4.39e+00
He I	46952.0586	1s 4p 3P_0 - 1s 5s 3S_1	4.5	1.46e+00
He I	108822.5703	1s 4s 3S_1 - 1s 4p 3P_2	4.5	1.44e+00