X-Ray Astronomy 2000
PASP Conference Series, Vol. , 2000
R. Giacconi, L. Stella and S. Serio eds.

Solar and stellar high-resolution X-ray spectra. Plasma diagnostics with CHIANTI

G. Del Zanna

DAMTP, University of Cambridge, Cambridge UK

K. P. Dere

Naval Research Laboratory, Washington DC, USA

E. Landi

Naval Research Laboratory, Washington DC, USA

M.Landini

Dipartimento di Astronomia e Scienza dello Spazio, University of Florence, Italy

H. E. Mason

DAMTP, University of Cambridge, Cambridge UK

P. R. Young

Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, USA

Abstract.
High-resolution X-ray solar (SMM/FCS, SOLEX) and stellar (Chandra/HETG) spectra are presented and interpreted using CHIANTI. The CHIANTI atomic database has been extended in the 1 - 50 Å wavelength region, and now includes lines from H- and He-like ions, inner-shell transitions and satellite lines. Coronal densities are evaluated using density-sensitive lines, and the multi-thermal characteristics described with DEM distributions. This allows *quantitative* comparisons between the CHIANTI predicted line intensities and the observed spectra to be made. Such comparisons are useful for line identifications and to provide an assessment of the completeness and reliability of the most recent atomic data.

1. Introduction

The definition of an atomic database for the X-ray wavelengths is of great importance to the analysis and interpretation of the high-resolution X-ray spectra that the Chandra and XMM satellites are now providing, and for the future solar spectra that will be provided by CORONAS-F.

CHIANTI is a collaborative project involving the Naval Research Laboratory (Washington DC, USA), the Arcetri Observatory (Firenze, Italy), and the Cambridge University (United Kingdom).

CHIANTI consists of a critically evaluated set of atomic data, that together with a set of Interactive Data Language (IDL) programs can provide information on the observed emission line spectra of astrophysical plasmas, in terms for example of temperature, density and element abundances. The main assumptions are that the plasma emission is optically thin, collisionally dominated and in ionization equilibrium.

The CHIANTI database is widely used. It also currently constitutes a large part of the Atomic Plasma Emission Database developed at the Centre for Astrophysics, Cambridge (USA), by Randall Smith and Nancy Brickhouse.

- The database contains the most uptodate atomic data, in the form of ASCII files (that include energy levels, oscillator strengths and A values, electron collisional excitation rates, etc). These files contain complete references to the sources of the data, which in some cases have been supplemented by our own calculations.
- The structure is modular, so this database can easily be updated and inserted into other databases.
- The available atomic data are assessed before they are entered into the database.
- Wavelengths based on experimental data are provided.
- A set of ionization equilibrium, element abundances and Differential Emission Measure (DEM) files are provided.
- The IDL routines are documented and are in a modular form, allowing easy inclusion in user-written programs. Some of the features include:
  - Calculate synthetic spectra.
  - Density diagnostic ratios.
  - Temperature diagnostic ratios.
  - DEM(T) inversion.
  - Continuum (free-free and free-bound).
  - Radiative losses.

The first version of the CHIANTI database was released in 1996 (Dere et al., 1997). The second version (Landi et al. 1999), included continuum emission and data for additional ions.

The CHIANTI database is being used extensively by the astrophysical and solar communities. The CHIANTI v.1 and v.2 databases have proved a high-degree of accuracy and completeness in the EUV wavelength range (at wavelengths longer than 150 Å) as shown by comparisons made with e.g. SERTS and SOHO/CDS solar spectra, where the database has successfully been used for both plasma diagnostics (e.g.: Mason et al, 1997; Young et al., 1998; Del Zanna and Bromage 1999) and in-flight calibration purposes (e.g.: Landi et al., 1999; Brosius et al., 1998).

1.1. Extension to the X-rays

The CHIANTI atomic database has been extended in the 1 - 50 Å wavelength region, as described in Paper IV: *'CHIANTI - an atomic database for emission lines, IV - Extension to X-ray Wavelengths'* (Dere at al., 2000).

The main new additions are:

- inclusion of emission lines from the hydrogen and helium isoelectronic sequences, innershell transitions and satellite lines.
- Many of the ions already present in previous versions of the database have been modified and improved with new atomic data. In particular, for the ions Fe XVII-XXIV, that produce most of the strongest lines in the X-ray wavelength range, the adopted energy levels are mostly those recently reported by Shirai et al. (2000).

The new version 3 of the CHIANTI database, with associated IDL procedures **is freely available** at the web sites:

- Naval Research Laboratory (NRL) in Washington, USA:

  http://wwwsolar.nrl.navy.mil/chianti.html
- Department of Applied Mathematics and Theoretical Physics, University of Cambridge, UK:

  http://www.damtp.cam.ac.uk/user/astro/chianti/chianti.html
- Arcetri Astrophysical Observatory in Florence, Italy:

  http://www.arcetri.astro.it/science/chianti/chianti.html

These web sites also contain more information on CHIANTI and have examples. We also maintain an **CHIANTI e-mail list**, that is used to distribute information about any developments of the CHIANTI database and programs. If you are interested, please send us an e-mail.

1.2. Future developments of CHIANTI

CHIANTI will continue to grow and be updated in the future. We expect to work on the following areas in the near future:

- include proton excitation rates;
- develop new software, that will enhance the potentialities of the database;

- include new atomic data calculations;
- perform more accurate data assessments, also with further comparison with experimental data;
- develop procedures that account for non-ionization equilibrium.

2. Comparison with observed spectra in the 1–50 Å range

The CHIANTI database has been compared with observed spectra in the 1–50 Å wavelength range in order to test for accuracy and completeness.

2.1. Observed solar spectra

Paper IV includes a comparative list of CHIANTI-predicted lines and the observed lines from published high resolution solar spectra, mostly recorded by the SMM/FCS and SOLEX spectrometers. This list is reproduced in the appendix.

First of all, it is important to keep in mind that:

- There are very few published high resolution solar spectra in the 1-50 Å range, at this time.
- Most of these spectra are not in calibrated physical units or do not have an accurate intensity calibration.
- The spectra were usually recorded by scanning over a wavelength range.
- Most of the spectra were recorded during solar flares, when the intensities of the flare lines was changing by large factors.
- Different publications present different spectral line identifications.
- Most of the line identifications were based on wavelengths, and not on intensities.

Two solar spectra have been chosen here for testing CHIANTI:

- A flare spectrum of 1979 June 10 recorded in the 8 – 23 Å region by the SOLEX (USAF P78-1) spectrometer (McKenzie et al., 1980). The spectrum was recorded in $\simeq$ 85s.
- A flare spectrum of 1980 August 25 recorded in the 5 – 19 Å region by the SMM/FCS in $\simeq$ 18m (Phillips et al., 1982). The flare lines dropped their intensity by factors $\simeq$ 3 while the spectrum was recorded, making this observation difficult to interpret.

2.2. Observed stellar spectra

Two of the stars selected for the Chandra Emission Line Project have been selected:

- Chandra/HETG HR 1099. A single spectrum in the public database has been used.
- Chandra/HETG Capella. Here, a composite of the publicly available spectra extracted by D. Huenemoerder (MIT) has been used.

2.3. Solar vs. stellar X-ray spectra for line identifications

A question arises: which spectral data are more suitable to test the completeness and correctness of the latest atomic data ?

The new Chandra/HETG have a high spectral resolution, comparable to that of the earlier solar spectrometers. This high resolution is very useful for line identifications and the assessment of line blending.

The solar flare spectra, however, have the advantage over the available stellar spectra of having good signal-to-noise, together with the presence of both cool and high-temperature (flare) spectral lines.

For quantitative analyses, spectra should be well calibrated in intensity over large wavelength ranges.

The solar spectra have the disadvantage of lack of simultaneity in recording lines at different wavelengths, making their interpretation quite problematic, for flare observations.

2.4. The model adopted for producing CHIANTI spectra

As a first approximation, the following model was adopted:

- The photospheric abundances of Grevesse and Anders (1991).
- The ionization equilibria of Arnaud and Raymond (1992) for iron ions, Arnaud and Rothenflug (1985) for the other abundant ions and Landini and Monsignori Fossi (1991) for the minor ions.
- A constant density of 10^{11} and 10^{12} (cm^{-3}) was adopted for the solar spectra and the HR 1099 spectrum. A constant pressure of 10^{16} (cm^{-3} K) was adopted for the Capella spectrum.
- A differential emission measure analysis (Del Zanna, 1999) was performed on all spectra, attempting to reproduce the majority of lines.
- CHIANTI line intensities have been calculated, and synthetic spectra constructed convolving the line intensities with gaussian profiles having fixed width, as a first approximation.

2.5. Results

Now, a sample of the comparisons performed are presented.

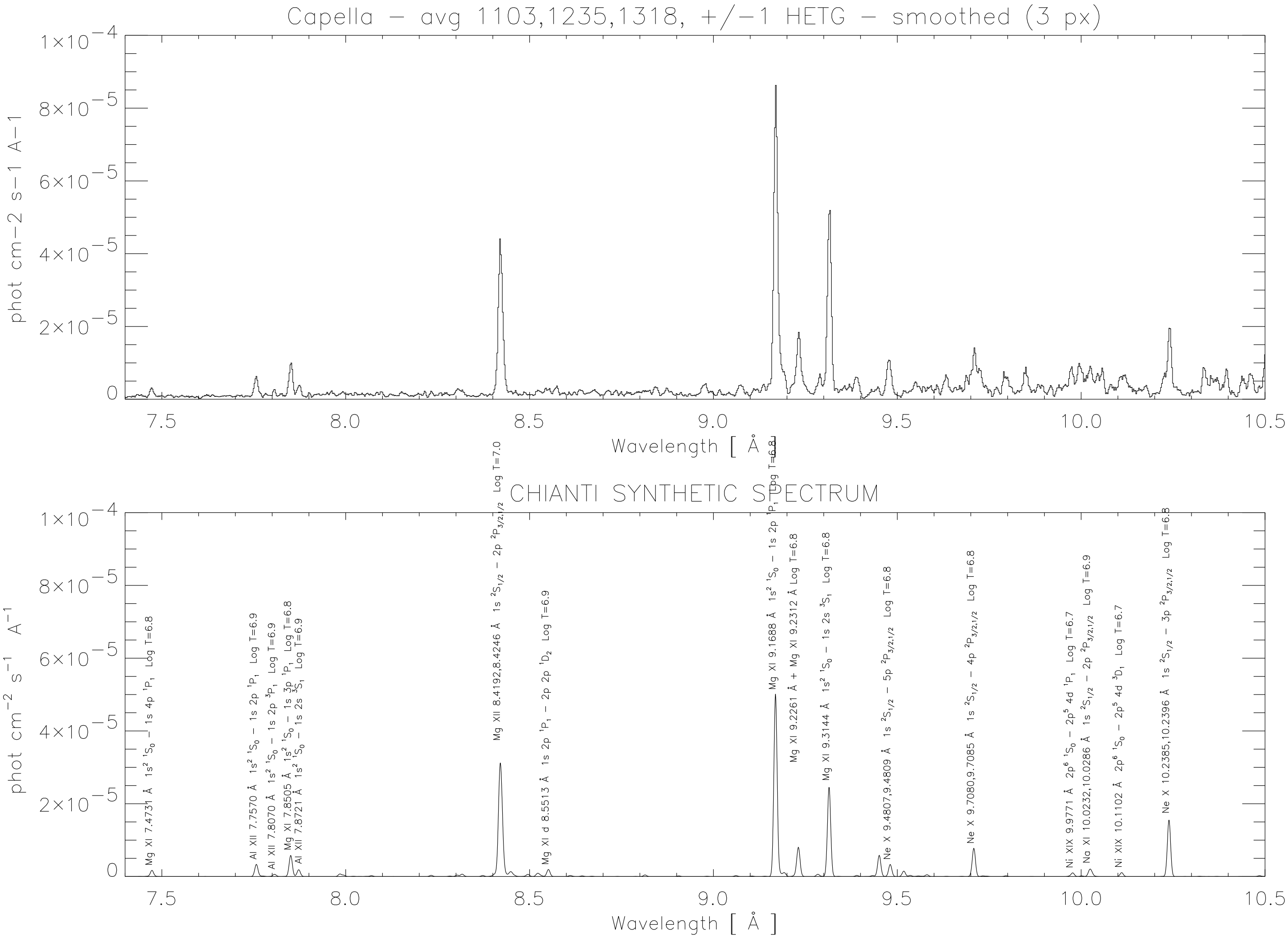

Figure 1. *Capella HETG observed and synthetic spectrum.*

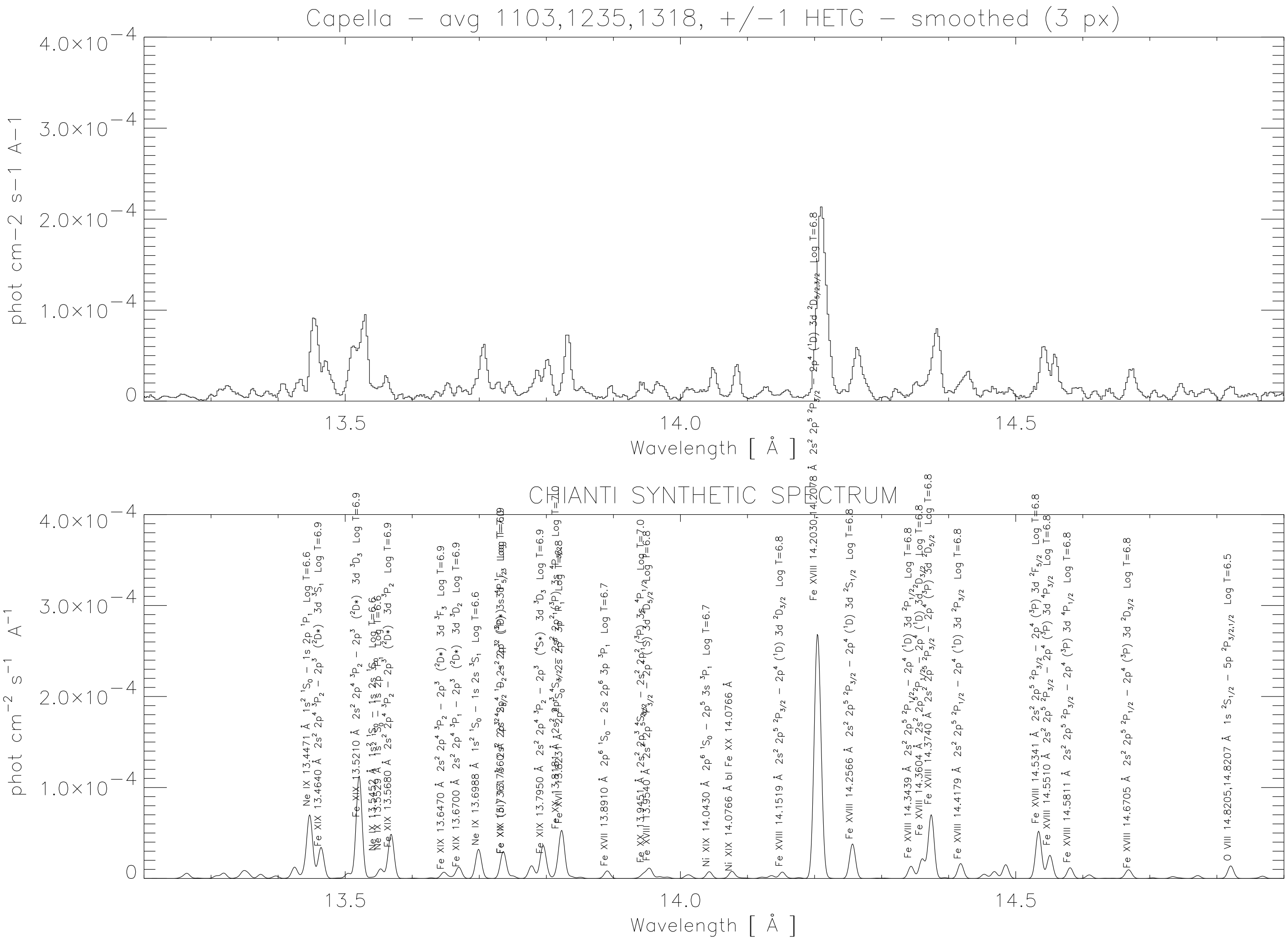

Figure 2. *Capella HETG observed and synthetic spectrum.*

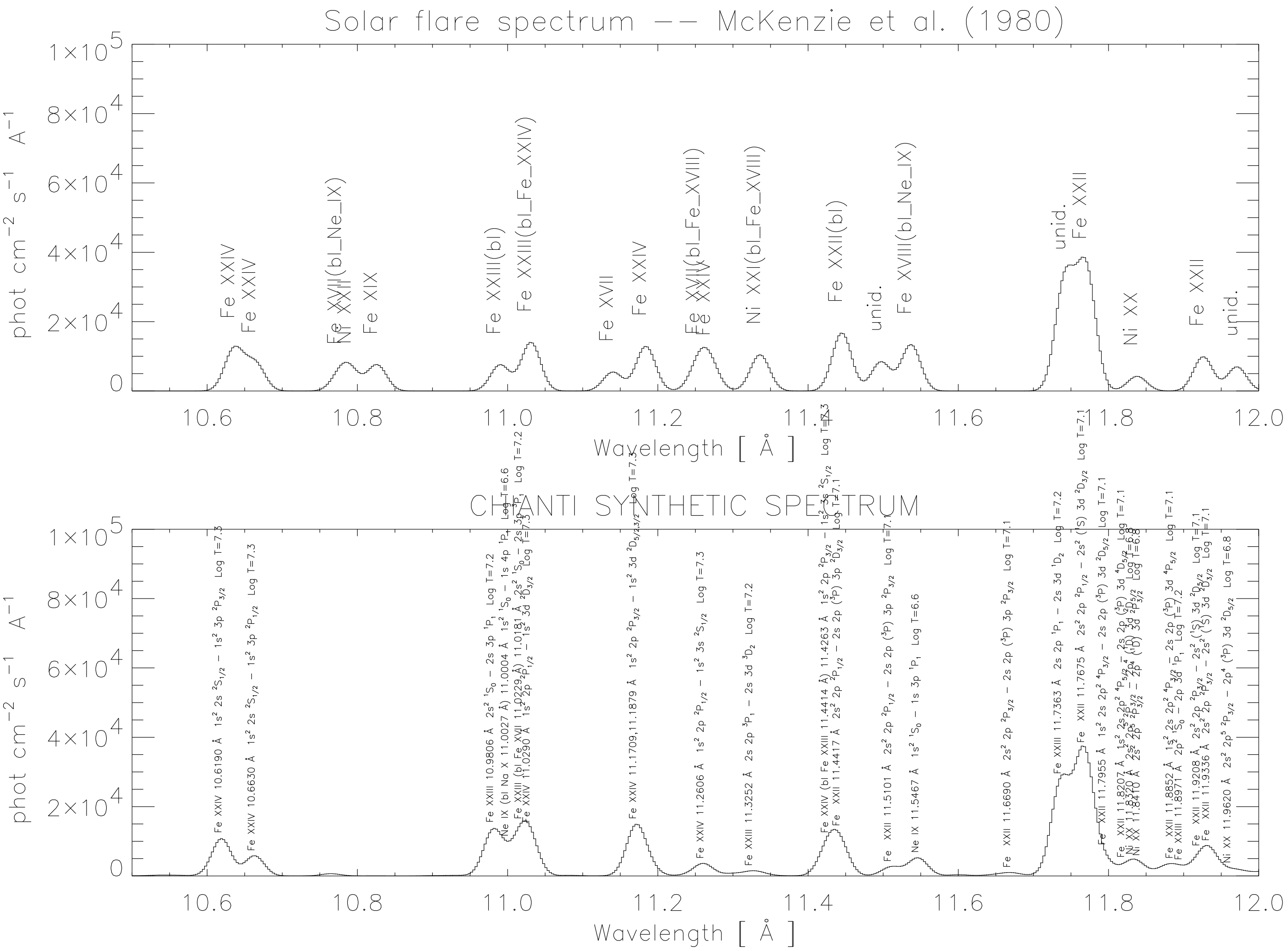

Figure 3. *The solar flare spectrum of McKenzie et al. (1980) with the synthetic spectrum. Note how most of the lines are high-T ones.*

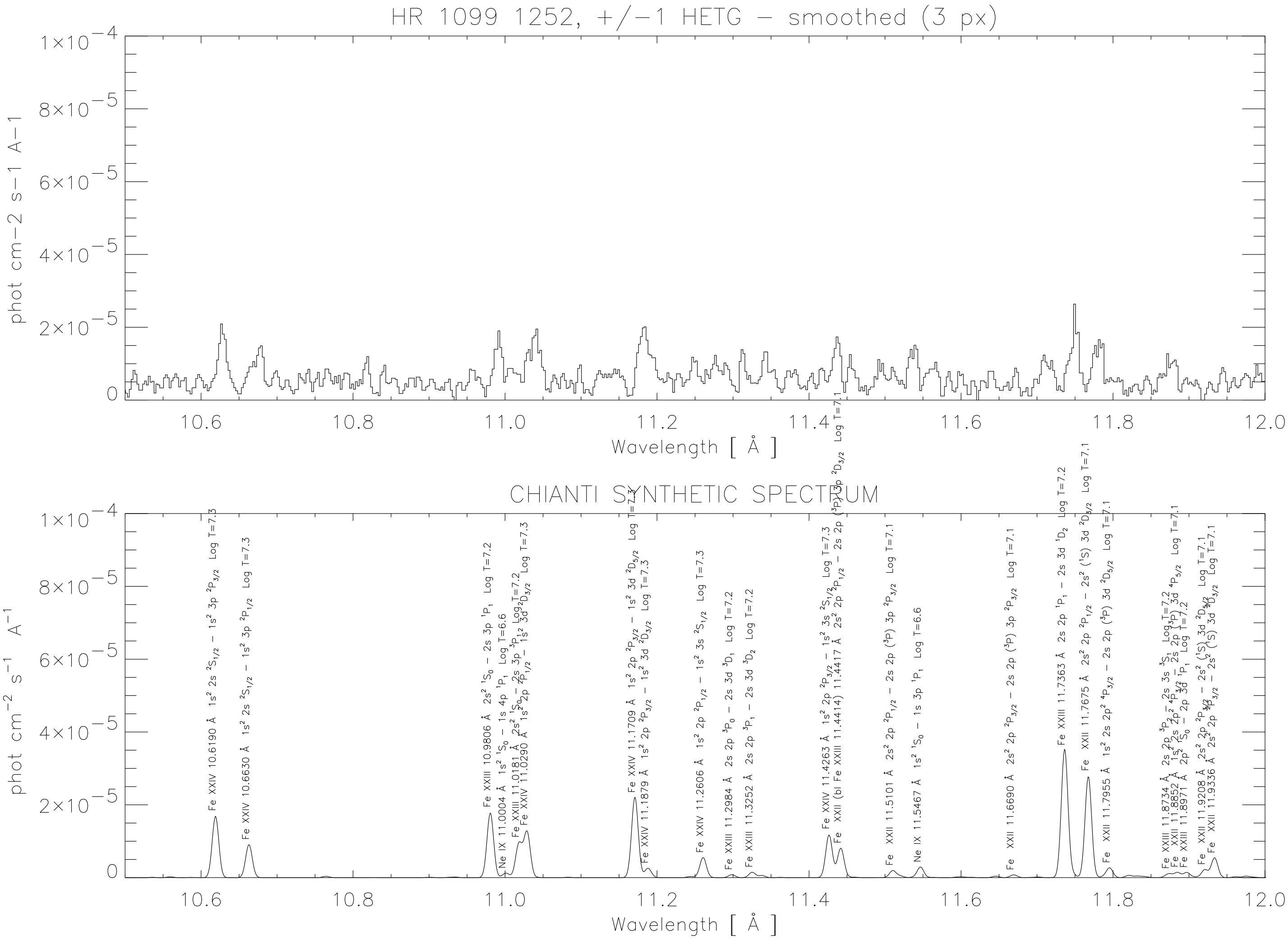

Figure 4. *HR 1099 HETG observed and synthetic spectrum. Note how most of the lines are high-T ones.*

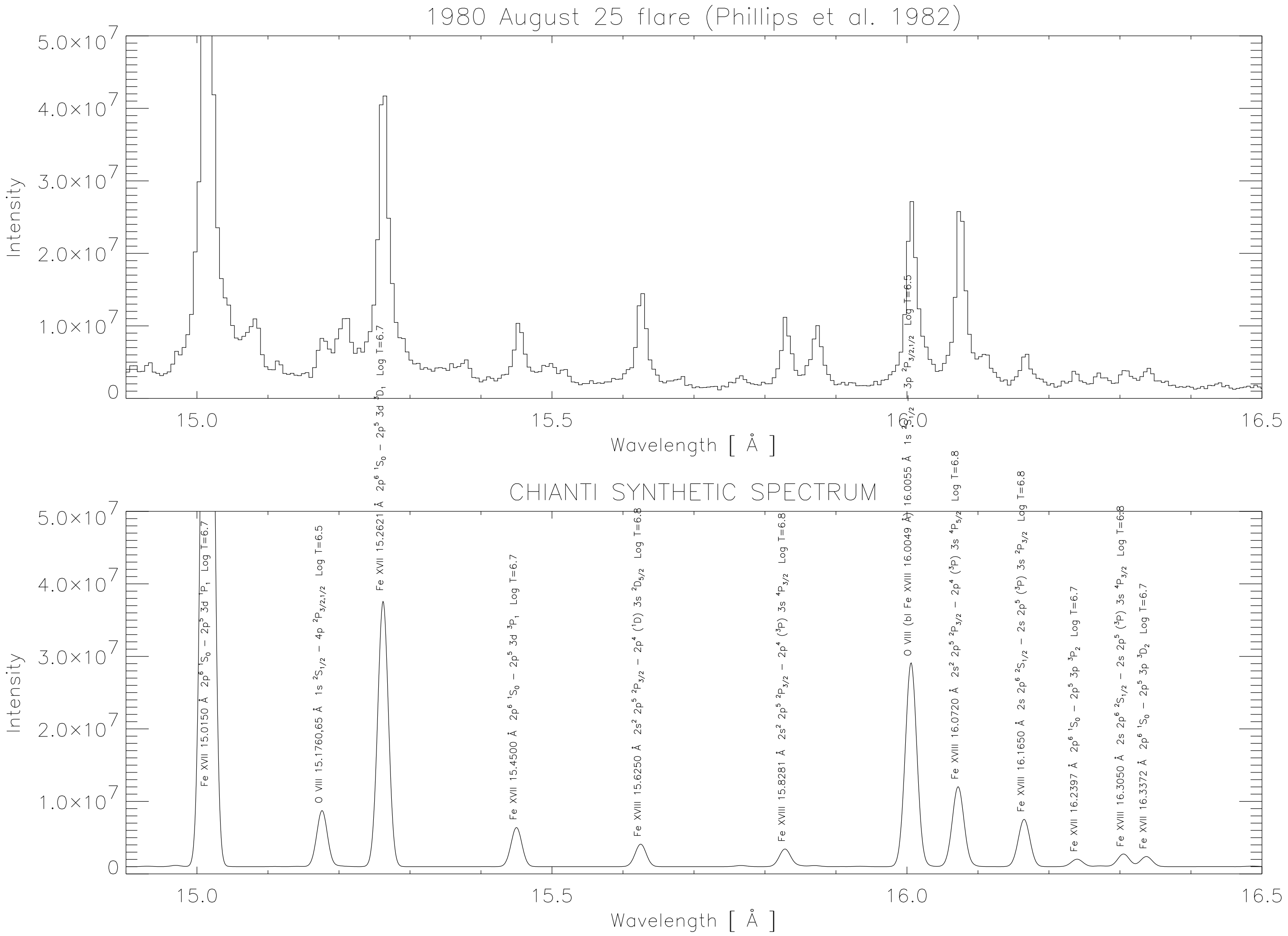

Figure 5. *The 1980 solar flare spectrum of Phillips et al. (1982) with the synthetic spectrum. Note the presence of unidentified lines.*

3. Conclusion

A large effort was expended in extending the CHIANTI database into the soft X-ray wavelength region (1–50 Å), to include new transitions from hydrogen and helium isoelectronic sequences, innershell transitions and satellite lines, and from several other ions. Plasma characteristics such as electron densities and temperatures can now be derived from X-ray spectra using CHIANTI.

The X-ray wavelength region is still relatively **unexplored**.

Only a few high-resolution solar spectra are available. Now the Chandra and XMM satellites are providing high-resolution X-ray spectra. The issue of line identifications and completeness of an atomic database in the X-ray wavelength range is still very important, in particular when considering the interpretation of low-resolution spectra, that represent the majority of data taken by Chandra and XMM.

The inclusion of the most updated atomic data, in particular for the Fe XVII-XXIV ions, can be considered a great improvement in our understanding of the X-ray spectrum. The comparisons with the solar and stellar spectra have shown that the great majority of lines observed in the X-ray spectrum between 1 and 50 Å can be identified and are now included in the CHIANTI database.

These comparisons have however outlined that there are still many unidentified lines, and lines for which no atomic data are available. Much work is still required in order to have more accurate line identifications. For this, high-resolution, high S/N well calibrated spectra are needed.

Acknowledgments. We are grateful to K. Phillips (RAL) for providing calibrated SMM/FCS spectra.
Financial support from PPARC and the Chandra Emission Line Project (ELP) is acknowledged.
G. Del Zanna also acknowledges financial support from the University of Central Lancashire.

References

Arnaud, M., Raymond,J.: 1992, ApJ, 398, 394

Arnaud, M., Rothenflug R. 1985, A&AS, 60, 425

Brosius, J. W., Davila, J. M. and Thomas, R. J., 1998, Astrophys. J. Letters, 497, L113, Calibration of the SERTS-95 Spectrograph from Iron Line Intensity Ratios

Del Zanna, G. and Bromage, B.J.I. 1999, J. Geophys. Res., 104, 9753, The Elephant's Trunk: Spectroscopic diagnostics applied to SOHO/CDS observations of the August 1996 equatorial coronal hole

Del Zanna, G.,1999, PhD thesis, University of Central Lancashire, UK

Dere, K. P., Landi, E., Mason, H. E., Monsignori Fossi, B. C. and Young, P. R., 1997, Astron. Astrophys. Suppl. Ser., 125, 149, CHIANTI: an Atomic Database for Emission Lines

Grevesse, N., and Anders, E., 1991, in *Solar Interior and Atmosphere*, eds. A.N. Cox, W.C. Livingston, and M.S. Matthews, (Tucson: Univ. Arizona Press), 1227

Landi, E., Del Zanna, G., Landini, M., Bromage, B.I.J., Breeveld, E., Pike, C.D., Relative intensity calibration of CDS-GIS detectors on SOHO using a plasma diagnostic technique, 1999, A&A, 135, 171

Landi, E., Landini, M., Dere, K.P., Young, P.R.. and Mason, H. E., 1999, Astron. Astrophys., 135, 339, CHIANTI - an atomic database for emission lines III – Continuum radiation and extension of the ion database

Landini, M., Monsignori Fossi, B.C., 1991, A&AS, 91, 183

Mason H.E., Young P.R., Pike C.D., Harrison R.A., Fludra A., Bromage B.J.I., Del Zanna G., 1997, Sol. Phys., 170, 143, Application of Spectroscopic Diagnostics to Early Observations with the SOHO Coronal Diagnostic Spectrometer

McKenzie, D.L., Landecker, P.B., Broussard, R.M., Rugge, H.R., Young, R.M., Feldman, U., & Doschek, G.A., 1980, ApJ, 241, 409 (14)

Phillips, K.J.H., Leibacher, J.W., Wolfson, C.J., Parkinson, J.H., Fawcett, B.C., Kent, B.J., Mason, H.E., Acton, L.W., Culhane, J.L., & Gabriel, A.H., 1982, ApJ, 256, 774 (17)

Shirai, T., Sugar, J., Musgrove, A., Wiese, W.L., 2000, J. Phys. Chem. Ref. Data, Monograph 8

Young, P.R., Landi, E. and Thomas R.J., 1998, Astron. Astrophys., 329, 291, CHIANTI: an atomic database for emission lines II. Comparison with the SERTS-89 active region spectrum

Appendix

Ion	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI
H																
He		○														
C		○	•	○	⋆	⋆										
N		○	•	○	○	⋆	⋆									
O		○	•	•	○	•	⋆	⋆								
Ne		○	○	•	•	•	○	•	⋆	⋆						
Na			○	○	○	○	•	○	○	⋆	⋆					
Mg		○		○	○	○	•	•	•	•	⋆	⋆				
Al			○		○	○	•	•	•	○	•	⋆	⋆			
Si		○	○	○	○	○	○	•	•	•	○	•	⋆	⋆		
P					○		○	○	○	•	•	○	○			
S		○	⋆	•	○	○	○	○	○	•	•	•	○	•	⋆	⋆
Cl														○		
Ar							○	○	○	○	○	•	•	•	○	•
K								○	○		○	○	○	•	○	○
Ca									○	○	○	○	○	•	•	•
Ti											○	○		○	○	○
Cr													○	○		○
Mn															○	
Fe		○					○	•	○	•	•	•	○	○	○	•
Co																
Ni												○	○		•	○
Zn																

Ion	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV	XXV	XXVI	XXVII	XXVIII
Ar	⋆	⋆										
K	○											
Ca	○	•	⋆	⋆								
Ti	•	•	○	○								
Cr	○	○	○	•	○	○						
Mn	•	○	○	•	•	○	○					
Fe	•	○	○	○	○	•	○	•	⋆	⋆		
Co	○		○		○	○	○	•	•			
Ni	○	○	○	○		○	•	•	○	•	⋆	⋆
Zn				○				○	•	○	○	

Table 1. Ions included in the CHIANTI database. ○: Ions in the CHIANTI 1.01 version *not* changed in the present update. •: Ions in the CHIANTI 1.01 version whose data have been modified/complemented in the present update. ⋆: New entries for the CHIANTI version 3.0 database.

CHIANTI: Line list in the 1-50 Å range

Here, we reproduced the line list as in Dere et al. (2000).

This compiled list includes observations from: (1) Acton et al. 1985; (7) Widing and Sandlin 1968; (11) Fawcett et al. 1987; (12) the list of Fawcett et al. 1987 revised by Philllips et al. 1999; (13) Feldman, Doschek & Kreplin 1980; (14) McKenzie et al. 1980; (15) McKenzie & Landecker 1982; (16) McKenzie et al. 1985; (17) Phillips et al. 1982; (18) Phillips et al. 1999; (19) Doschek 1972; (20) Pike et al. 1996.

The numbers between 1 and 20 refer to the reference key provided in the last column of the Table. Aside from the spectra of Widing and Sandlin 1968, all of the spectra were observed during solar flares. We have developed a composite of these spectra by combining all of the observations within a narrow wavelength interval. Because of the relatively low resolution of the X-ray spectra compiled by Doschek 1972, we have not included all of these observed wavelengths.

Whenever solar observations were available, the average of the observed wavelengths for each single spectral line feature is given in the first column of Table 5 (the last column provides a key to the reference to the observations). If there are CHIANTI predicted lines associated with the observed line, they are listed, with their CHIANTI wavelength (in second column), their identification (third and fourth column), and intensity of the line (fifth column). A blank first column indicates multiple strong lines that can be associated with the observed wavelength. Note that only the brightest lines contributing to each blend are shown. A '.....' in the first column indicates a strong spectral line that is expected on the basis of the CHIANTI computed spectra that has not apparently been observed.

The intensities of the lines in the CHIANTI database have been calculated as in Paper I, using a differential emission measure (DEM) of a solar flare between 3 x 10^4 and 2 x 10^7K is taken from Dere and Cook (1979) this time enhanced and extrapolated to 10^8K in order to reproduce the lines at the shortest wavelengths. The calculations of the line intensities assume the solar elemental abundances of Allen (1973), the ionization equilibria of Arnaud and Raymond (1992) for iron ions, Arnaud and Rothenflug (1985) for the other abundant ions and Landini and Monsignori Fossi (1991) for the minor ions. The line intensities are expressed in erg cm^{-2} s^{-1} sr^{-1}.

If there are no bright lines predicted by CHIANTI, associated with the observed one, a 'missing' line is listed in the Table. This line can be recognised by the absence of a predicted intensity (i.e. a '...' in the intensity column). Wavelengths and identifications are those given by Kelly (1987).

The CHIANTI database predicts many more lines than are listed in Table but we have not included lines below a threshold value suggested by the intensities of the lines that have been observed. The CHIANTI database also predicts the presence of many lines that apparently have not been observed yet. Some of these lines are from energy levels that do not have observed values, and are not included in the Table.

We stress that the intensity values in the Table should only be used as a guide to the identification and the problem of blending and should be used in a relative sense. Some identifications should be considered simply coincidental if the expected intensity is relatively low.

CHIANTI XUV Line List					
λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
...	1.2540	Ni XXVII	1s^2 ^{1}S$_0$ - 1s 5p ^{1}P$_1$	1.1e+03	
...	1.2830	Ni XXVII	1s^2 ^{1}S$_0$ - 1s 4p ^{1}P$_1$	2.5e+03	
...	1.2934	Ni XXVIII	1s ^{2}S$_{1/2}$ - 3p ^{2}P$_{3/2}$	1.2e+03	
...	1.3500	Ni XXVII	1s^2 ^{1}S$_0$ - 1s 3p ^{1}P$_1$	7.6e+03	
...	1.3520	Ni XXVII	1s^2 ^{1}S$_0$ - 1s 3p ^{3}P$_1$	1.3e+03	
...	1.3917	Fe XXVI	1s ^{2}S$_{1/2}$ - 5p ^{2}P$_{3/2}$	7.5e+03	
...	1.3919	Fe XXVI	1s ^{2}S$_{1/2}$ - 5p ^{2}P$_{1/2}$	3.8e+03	
...	1.4249	Fe XXVI	1s ^{2}S$_{1/2}$ - 4p ^{2}P$_{3/2}$	1.5e+04	
...	1.4253	Fe XXVI	1s ^{2}S$_{1/2}$ - 4p ^{2}P$_{1/2}$	7.4e+03	
...	1.4610	Fe XXV	1s^2 ^{1}S$_0$ - 1s 5p ^{3}P$_1$	3.5e+03	
...	1.4610	Fe XXV	1s^2 ^{1}S$_0$ - 1s 5p ^{1}P$_1$	2.6e+04	
...	1.4950	Fe XXV	1s^2 ^{1}S$_0$ - 1s 4p ^{1}P$_1$	5.7e+04	
...	1.4950	Fe XXV	1s^2 ^{1}S$_0$ - 1s 4p ^{3}P$_1$	7.8e+03	
...	1.5023	Fe XXVI	1s ^{2}S$_{1/2}$ - 3p ^{2}P$_{3/2}$	4.6e+04	
...	1.5035	Fe XXVI	1s ^{2}S$_{1/2}$ - 3p ^{2}P$_{1/2}$	2.3e+04	
...	1.5303	Ni XXVIII	1s ^{2}S$_{1/2}$ - 2p ^{2}P$_{3/2}$	7.7e+03	
...	1.5358	Ni XXVIII	1s ^{2}S$_{1/2}$ - 2p ^{2}P$_{1/2}$	3.8e+03	
...	1.5415	Ni XXVII d	1s 2p ^{1}P$_1$ - 2p 2p ^{1}D$_2$	1.1e+03	
1.567	1.5730	Fe XXV	1s^2 ^{1}S$_0$ - 1s 3p ^{1}P$_1$	1.7e+05	19
	1.5750	Fe XXV	1s^2 ^{1}S$_0$ - 1s 3p ^{3}P$_1$	2.6e+04	
1.587	1.5880	Ni XXVII	1s^2 ^{1}S$_0$ - 1s 2p ^{1}P$_1$	5.2e+04	19
...	1.5923	Ni XXVII	1s^2 ^{1}S$_0$ - 1s 2p ^{3}P$_2$	7.7e+03	
...	1.5935	Ni XXVI	1s^2 2s ^{2}S$_{1/2}$ - 1s 2s 2p (^{1}P) ^{2}P$_{1/2}$	1.2e+03	
...	1.5965	Ni XXVII	1s^2 ^{1}S$_0$ - 1s 2p ^{3}P$_1$	1.0e+04	
...	1.5970	Ni XXVI	1s^2 2s ^{2}S$_{1/2}$ - 1s 2s 2p (^{3}P) ^{2}P$_{3/2}$	5.6e+03	
...	1.5977	Ni XXVI d	1s^2 2p ^{2}P$_{3/2}$ - 1s 2p (^{3}P) 2p ^{2}P$_{3/2}$	1.1e+03	
...	1.5984	Ni XXVI d	1s^2 2p ^{2}P$_{1/2}$ - 1s 2p (^{1}P) 2p ^{2}D$_{3/2}$	2.3e+03	
...	1.5996	Ni XXVI	1s^2 2s ^{2}S$_{1/2}$ - 1s 2s 2p (^{3}P) ^{2}P$_{1/2}$	1.5e+03	
...	1.6009	Ni XXVI d	1s^2 2p ^{2}P$_{3/2}$ - 1s 2p (^{1}P) 2p ^{2}D$_{5/2}$	3.5e+03	
...	1.6036	Ni XXVII	1s^2 ^{1}S$_0$ - 1s 2s ^{3}S$_1$	1.0e+04	
1.778	1.7780	Fe XXVI	1s ^{2}S$_{1/2}$ - 2p ^{2}P$_{3/2}$	3.0e+05	20
...	1.7795	Fe XXV d	1s 3p ^{1}P$_1$ - 2p 3p ^{1}D$_2$	1.3e+04	
1.783	1.7833	Fe XXVI	1s ^{2}S$_{1/2}$ - 2s ^{2}S$_{1/2}$	1.0e+04	20
	1.7834	Fe XXVI	1s ^{2}S$_{1/2}$ - 2p ^{2}P$_{1/2}$	1.5e+05	
...	1.7872	Fe XXV d	1s 2s ^{1}S$_0$ - 2s 2p ^{1}P$_1$	1.9e+04	
...	1.7873	Fe XXV d	1s 2p ^{3}P$_2$ - 2p^2 ^{1}D$_2$	1.2e+04	
1.792	1.7920	Fe XXV d	1s 2p ^{1}P$_1$ - 2p^2 ^{1}D$_2$ (J)	3.7e+04	20
	1.7926	Fe XXV d	1s 2p ^{3}P$_2$ - 2p^2 ^{3}P$_2$	1.4e+04	
1.8283					13
1.8309					13

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
1.8344					13
1.8389					13
1.8424					13
1.8499	1.8500	Fe XXV	$1s^2\ ^1S_0$ - $1s\ 2p\ ^1P_1$ (w)	1.2e+06	13
...	1.8517	Fe XXIV d	$1s^2\ 3d\ ^2D_{5/2}$ - $1s\ 2p\ (^1P)\ 3d\ ^2F_{7/2}$	1.3e+04	
...	1.8525	Fe XXIV d	$1s^2\ 3p\ ^2P_{1/2}$ - $1s\ 2p\ (^1P)\ 3p\ ^2D_{3/2}$	1.4e+04	
...	1.8532	Fe XXIV d	$1s^2\ 3p\ ^2P_{3/2}$ - $1s\ 2p\ (^1P)\ 3p\ ^2D_{5/2}$	1.8e+04	
1.8552	1.8554	Fe XXV	$1s^2\ ^1S_0$ - $1s\ 2p\ ^3P_2$ (x)	1.6e+05	13
1.8568	1.8565	Fe XXIV d	$1s^2\ 3p\ ^2P_{3/2}$ - $1s\ 2p\ (^3P)\ 3p\ ^2D_{5/2}$	6.2e+03	13
	1.8566	Fe XXIV d	$1s^2\ 2p\ ^2P_{3/2}$ - $1s\ 2p\ (^1P)\ 2p\ ^2S_{1/2}$ (m)	7.2e+03	
	1.8571	Fe XXIV d	$1s^2\ 2s\ ^2S_{1/2}$ - $1s\ 2s2p\ (^1P)\ ^2P_{1/2}$ (t)	1.6e+04	
	1.8572	Fe XXIV	$1s^2\ 2s\ ^2S_{1/2}$ - $1s\ 2s\ 2p\ (^1P)\ ^2P_{1/2}$ (t)	1.7e+04	
1.8595	1.8595	Fe XXV	$1s^2\ ^1S_0$ - $1s\ 2p\ ^3P_1$ (y)	2.1e+05	13
	1.8604	Fe XXIV	$1s^2\ 2s\ ^2S_{1/2}$ - $1s\ 2s\ 2p\ (^3P)\ ^2P_{3/2}$	9.4e+04	
1.8610	1.8604	Fe XXIV	$1s^2\ 2s\ ^2S_{1/2}$ - $1s\ 2s\ 2p\ (^3P)\ ^2P_{3/2}$ (q)	9.4e+04	13
1.8631	1.8622	Fe XXIV d	$1s^2\ 2p\ ^2P_{3/2}$ - $1s\ 2p\ (^3P)\ 2p\ ^2P_{3/2}$ (a)	2.0e+04	13
	1.8630	Fe XXIV d	$1s^2\ 2p\ ^2P_{1/2}$ - $1s\ 2p\ (^1P)\ 2p\ ^2D_{3/2}$ (k)	4.9e+04	
	1.8635	Fe XXIV d	$1s^2\ 2s\ ^2S_{1/2}$ - $1s\ 2s2p\ (^3P)\ ^2P_{1/2}$ (r)	7.9e+03	
	1.8637	Fe XXIV	$1s^2\ 2s\ ^2S_{1/2}$ - $1s\ 2s\ 2p\ (^3P)\ ^2P_{1/2}$ (r)	2.6e+04	
1.8660	1.8659	Fe XXIV d	$1s^2\ 2p\ ^2P_{3/2}$ - $1s\ 2p\ (^1P)\ 2p\ ^2D_{5/2}$ (j)	7.3e+04	13
1.8680	1.8676	Fe XXIV	$1s^2\ 2s\ ^2S_{1/2}$ - $1s\ 2s\ 2p\ (^3P)\ ^4P_{5/2}$	1.5e+04	13
	1.8682	Fe XXV	$1s^2\ ^1S_0$ - $1s\ 2s\ ^3S_1$ (z)	2.3e+05	
1.8704	1.8721	Fe XXIII d	$2s\ 2p\ ^3P_1$ - $1s\ 2s\ 2p^2\ ^3D_1$	1.1e+04	13
1.8732	1.8724	Fe XXIII d	$2s\ 2p\ ^3P_0$ - $1s\ 2s\ (^4P)\ 2p^2\ ^3P_1$	7.3e+03	13
	1.8727	Fe XXIV d	$1s^2\ 2p\ ^2P_{3/2}$ - $1s\ 2p\ (^3P)\ 2p\ ^4P_{5/2}$ (e)	1.2e+04	
	1.8728	Fe XXIV	$1s^2\ 2s\ ^2S_{1/2}$ - $1s\ 2s\ 2p\ (^3P)\ ^4P_{1/2}$ (v)	5.1e+03	
	1.8730	Fe XXIV	$1s^2\ 2s\ ^2S_{1/2}$ - $1s\ 2s\ 2p\ (^3P)\ ^4P_{3/2}$ (u)	1.2e+04	
	1.8731	Fe XXIII d	$2s\ 2p\ ^3P_1$ - $1s\ 2s\ 2p^2\ ^3D_2$	3.0e+04	
	1.8734	Fe XXIII d	$2s\ 2p\ ^3P_2$ - $1s\ 2s\ (^4P)\ 2p^2\ ^3P_2$	9.6e+03	
1.8754	1.8754	Fe XXIII d	$2s\ 2p\ ^3P_2$ - $1s\ 2s\ 2p^2\ ^3D_3$	4.1e+04	13
1.8779	1.8771	Fe XXIII d	$2s\ 2p\ ^1P_1$ - $1s\ 2s\ 2p^2\ ^1D_2$	9.1e+03	13
	1.8786	Fe XXIII d	$2s^2\ ^1S_0$ - $1s\ 2s^2 2p\ ^3P_1$	2.7e+03	
1.8794	1.8795	Fe XXII d	$2s^2\ 2p\ ^2P_{3/2}$ - $1s\ 2s^2\ 2p^2\ ^2S_{1/2}$	1.1e+03	13
1.8824	1.8822	Fe XXII d	$2s^2\ 2p\ ^2P_{1/2}$ - $1s\ 2s^2\ 2p^2\ ^2D_{3/2}$	3.4e+03	13
1.8851	1.8849	Fe XXII d	$2s^2\ 2p\ ^2P_{3/2}$ - $1s\ 2s^2\ 2p^2\ ^2D_{5/2}$	4.5e+03	13
1.8867	1.8870	Fe XXIII d	$2s\ 2p\ ^3P_2$ - $1s\ 2s\ 2p^2\ ^5P_3$	1.8e+03	13
1.8916	1.8924	Fe XXIV d	$1s^2\ 2p\ ^2P_{1/2}$ - $1s\ 2s^2\ ^2S_{1/2}$ (p)	2.1e+03	13
1.8942	1.8944	Fe XXI d	$2p^2\ ^3P_0$ - $1s\ 2s^2 2p^3\ ^3D_1$	2.4e+03	13
1.8966	1.8965	Fe XXI d	$2p^2\ ^3P_1$ - $1s\ 2s^2 2p^3\ ^3D_2$	3.2e+03	13
	1.8969	Fe XXIV d	$1s^2\ 2p\ ^2P_{3/2}$ - $1s\ 2s^2\ ^2S_{1/2}$ (o)	2.2e+03	

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
	1.8969	Fe XXI d	$2p^2\ ^3P_2$ - $1s\ 2s^2 2p^3\ ^3D_3$	1.2e+03	
1.9051	1.9051	Fe XX	$1s^2\ 2s^2\ 2p^3\ ^4S_{3/2}$ - $1s\ 2s^2\ 2p^4\ ^4P_{5/2}$	...	13
1.9075	1.9075	Fe XX	$1s^2\ 2s^2\ 2p^3\ ^2P_{3/2}$ - $1s\ 2s^2\ 2p^4\ ^2P_{3/2}$	...	13
1.9360	1.9360	Fe Kα_1		...	13
1.9400	1.9400	Fe Kα_2		...	13
2.706	2.7054	Ca XIX	$1s^2\ ^1S_0$ - $1s\ 3p\ ^1P_1$	9.9e+03	19
3.0185	3.0185	Ca XX	$1s\ ^2S_{1/2}$ - $2p\ ^2P_{3/2}$	3.6e+04	13
3.0239	3.0239	Ca XX	$1s\ ^2S_{1/2}$ - $2p\ ^2P_{1/2}$	1.8e+04	13
3.0485	3.0486	Ca XIX d	$1s\ 2p\ ^1P_1$ - $2p^2\ ^1D_2$ (j)	3.8e+03	13
3.16	3.1502	Ar XVIII	$1s\ ^2S_{1/2}$ - $3p\ ^2P_{3/2}$	1.9e+04	19
	3.1514	Ar XVIII	$1s\ ^2S_{1/2}$ - $3p\ ^2P_{1/2}$	9.6e+03	
3.1769	3.1772	Ca XIX	$1s^2\ ^1S_0$ - $1s\ 2p\ ^1P_1$ (w)	6.9e+04	13
3.1822	3.1820	Ca XVIII d	$1s^2\ 3p\ ^2P_{1/2}$ - $1s\ 2p\ (^1P)\ 3p\ ^2D_{3/2}$	9.1e+02	13
	3.1829	Ca XVIII d	$1s^2\ 3p\ ^2P_{3/2}$ - $1s\ 2p\ (^1P)\ 3p\ ^2D_{5/2}$	1.4e+03	
3.1889	3.1891	Ca XIX	$1s^2\ ^1S_0$ - $1s\ 2p\ ^3P_2$ (x)	7.9e+03	13
3.1925	3.1927	Ca XIX	$1s^2\ ^1S_0$ - $1s\ 2p\ ^3P_1$ (y)	9.0e+03	13
3.2003	3.1961	Ca XVIII	$1s^2\ 2s\ ^2S_{1/2}$ - $1s\ 2s\ 2p\ (^3P)\ ^2P_{3/2}$ (q)	2.4e+03	13
	3.1996	Ar XVII	$1s^2\ ^1S_0$ - $1s\ 4p\ ^1P_1$	9.5e+03	
3.2033	3.2038	Ca XVIII d	$1s^2\ 2p\ ^2P_{3/2}$ - $1s\ 2p\ (^3P)\ 2p\ ^2P_{3/2}$ (a)	7.2e+02	13
3.2066	3.2064	Ca XVIII d	$1s^2\ 2p\ ^2P_{1/2}$ - $1s\ 2p\ (^1P)\ 2p\ ^2D_{3/2}$ (k)	2.5e+03	13
3.2111	3.2102	Ca XVIII d	$1s^2\ 2p\ ^2P_{3/2}$ - $1s\ 2p\ (^1P)\ 2p\ ^2D_{5/2}$ (j)	3.4e+03	13
	3.2111	Ca XIX	$1s^2\ ^1S_0$ - $1s\ 2s\ ^3S_1$ (z)	1.8e+04	
3.371	3.3654	Ar XVII	$1s^2\ ^1S_0$ - $1s\ 3p\ ^1P_1$	3.0e+04	19
3.698	3.6958	S XVI	$1s\ ^2S_{1/2}$ - $5p\ ^2P_{3/2}$	7.4e+03	19
	3.6960	S XVI	$1s\ ^2S_{1/2}$ - $5p\ ^2P_{1/2}$	3.7e+03	
3.733	3.7311	Ar XVIII	$1s\ ^2S_{1/2}$ - $2p\ ^2P_{3/2}$	1.4e+05	19
	3.7365	Ar XVIII	$1s\ ^2S_{1/2}$ - $2p\ ^2P_{1/2}$	6.8e+04	
...	3.7554	Ar XVII d	$1s\ 2s\ ^1S_0$ - $2s\ 2p\ ^1P_1$	4.0e+03	
...	3.7720	Ar XVII d	$1s\ 2p\ ^1P_1$ - $2p\ 2p\ ^1D_2$	1.2e+04	
3.786	3.7843	S XVI	$1s\ ^2S_{1/2}$ - $4p\ ^2P_{3/2}$	1.7e+04	19
	3.7847	S XVI	$1s\ ^2S_{1/2}$ - $4p\ ^2P_{1/2}$	8.4e+03	
3.949	3.9488	Ar XVII	$1s^2\ ^1S_0$ - $1s\ 2p\ ^1P_1$	2.1e+05	19
3.969	3.9656	Ar XVII	$1s^2\ ^1S_0$ - $1s\ 2p\ ^3P_2$	2.0e+04	19
	3.9691	Ar XVII	$1s^2\ ^1S_0$ - $1s\ 2p\ ^3P_1$	2.6e+04	
...	3.9978	S XV	$1s^2\ ^1S_0$ - $1s\ 5p\ ^1P_1$	9.0e+03	
4.004	3.9908	S XVI	$1s\ ^2S_{1/2}$ - $3p\ ^2P_{3/2}$	5.1e+04	19
	3.9919	S XVI	$1s\ ^2S_{1/2}$ - $3p\ ^2P_{1/2}$	2.6e+04	
	3.9939	Ar XVII	$1s^2\ ^1S_0$ - $1s\ 2s\ ^3S_1$	6.2e+04	
4.104	4.0885	S XV	$1s^2\ ^1S_0$ - $1s\ 4p\ ^1P_1$	2.0e+04	19
4.299	4.2991	S XV	$1s^2\ ^1S_0$ - $1s\ 3p\ ^1P_1$	6.4e+04	19

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
4.729	4.7274	S XVI	1s $^2S_{1/2}$ - 2p $^2P_{3/2}$	3.7e+05	19
	4.7328	S XVI	1s $^2S_{1/2}$ - 2p $^2P_{1/2}$	1.8e+05	
4.769	4.7611	S XV d	1s 2s $^1S_0$ - 2s 2p $^1P_1$	8.5e+03	19
...	4.7848	S XV d	1s 2p $^1P_1$ - 2p 2p $^1D_2$	2.7e+04	
4.834	4.8310	Si XIV	1s $^2S_{1/2}$ - 5p $^2P_{3/2}$	1.5e+04	19
	4.8312	Si XIV	1s $^2S_{1/2}$ - 5p $^2P_{1/2}$	7.6e+03	
4.948	4.9467	Si XIV	1s $^2S_{1/2}$ - 4p $^2P_{3/2}$	3.4e+04	19
	4.9472	Si XIV	1s $^2S_{1/2}$ - 4p $^2P_{1/2}$	1.7e+04	
5.039	5.0387	S XV	1s^2 $^1S_0$ - 1s 2p $^1P_1$ (w)	4.5e+05	18,19
5.050	5.0484	S XIV d	1s^2 3p $^2P_{1/2}$ - 1s 2p (^{1}P) 3p $^2D_{3/2}$	4.4e+03	18
	5.0495	S XIV d	1s^2 3p $^2P_{3/2}$ - 1s 2p (^{1}P) 3p $^2D_{5/2}$	6.8e+03	
5.066	5.0631	S XV	1s^2 $^1S_0$ - 1s 2p $^3P_2$ (x)	2.8e+04	18,19
	5.0665	S XV	1s^2 $^1S_0$ - 1s 2p $^3P_1$ (y)	5.4e+04	
5.105	5.1015	S XV	1s^2 $^1S_0$ - 1s 2s $^3S_1$ (z)	1.5e+05	18,19
	5.1025	S XIV d	1s^2 2p $^2P_{3/2}$ - 1s 2p (^{1}P) 2p $^2D_{5/2}$ (j)	1.0e+04	
5.220	5.2168	Si XIV	1s $^2S_{1/2}$ - 3p $^2P_{3/2}$	1.1e+05	18,19
	5.2179	Si XIV	1s $^2S_{1/2}$ - 3p $^2P_{1/2}$	5.3e+04	
5.228	5.2230	Si XIII	1s^2 $^1S_0$ - 1s 6p $^1P_1$	...	18
5.238					18
5.285	5.2856	Si XIII	1s^2 $^1S_0$ - 1s 5p $^1P_1$	1.2e+04	18,19
5.407	5.4046	Si XIII	1s^2 $^1S_0$ - 1s 4p $^1P_1$	2.8e+04	18,19
5.682	5.6807	Si XIII	1s^2 $^1S_0$ - 1s 3p $^1P_1$	8.9e+04	16,17,18,19
5.816	5.8157	Si XII d	1s^2 2p $^2P_{1/2}$ - 1s 2p (^{3}P) 3p $^2D_{3/2}$	1.4e+03	19
	5.8163	Si XII d	1s^2 2p $^2P_{3/2}$ - 1s 2p (^{3}P) 3p $^2D_{5/2}$	2.9e+03	
6.049	6.0525	Al XIII	1s $^2S_{1/2}$ - 3p $^2P_{3/2}$	7.1e+03	19
	6.0537	Al XIII	1s $^2S_{1/2}$ - 3p $^2P_{1/2}$	3.6e+03	
...	6.1720	Si XIII d	1s 3d $^1D_2$ - 2p 3d $^1F_3$	1.0e+04	
6.180	6.1804	Si XIV	1s $^2S_{1/2}$ - 2p $^2P_{3/2}$	7.8e+05	17,18,19
6.187	6.1858	Si XIV	1s $^2S_{1/2}$ - 2p $^2P_{1/2}$	3.9e+05	17,18
...	6.1993	Si XIII d	1s 3d $^3D_3$ - 2p 3d $^3F_4$	5.6e+03	
6.212					18
6.224	6.2296	Si XIII d	1s 2s $^1S_0$ - 2s 2p $^1P_1$	1.2e+04	19
...	6.2446	Si XIII d	1s 2s $^3S_1$ - 2s 2p $^3P_2$	8.2e+03	
...	6.2482	Si XIII d	1s 2s $^3S_1$ - 2s 2p $^3P_1$	5.0e+03	
6.261					17,18
6.266	6.2650	Si XIII d	1s 2p $^1P_1$ - 2p 2p $^1D_2$	3.8e+04	17,18,19
6.319					18
6.324					18
6.333					18
6.364					18

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
6.402					18
6.420					18
6.470					18
6.485					18
6.581	6.5800	Mg XII	1s $^2S_{1/2}$ - 5p $^2P_{3/2}$	9.3e+03	18
	6.5802	Mg XII	1s $^2S_{1/2}$ - 5p $^2P_{1/2}$	4.6e+03	
...	6.6350	Al XII	1s^2 $^1S_0$ - 1s 3p $^1P_1$	4.5e+03	
6.647	6.6480	Si XIII	1s^2 $^1S_0$ - 1s 2p $^1P_1$ (w)	6.1e+05	16,17,18
...	6.6539	Si XII d	1s^2 3d $^2D_{3/2}$ - 1s 2p (^{1}P) 3d $^2F_{5/2}$	5.2e+03	
6.659	6.6554	Si XII d	1s^2 3d $^2D_{5/2}$ - 1s 2p (^{1}P) 3d $^2F_{7/2}$	8.2e+03	16
	6.6627	Si XII d	1s^2 3p $^2P_{1/2}$ - 1s 2p (^{1}P) 3p $^2D_{3/2}$	5.4e+03	
	6.6638	Si XII d	1s^2 3p $^2P_{3/2}$ - 1s 2p (^{1}P) 3p $^2D_{5/2}$	7.8e+03	
6.685	6.6851	Si XIII	1s^2 $^1S_0$ - 1s 2p $^3P_2$ (x)	3.0e+03	17,18
6.688	6.6883	Si XIII	1s^2 $^1S_0$ - 1s 2p $^3P_1$ (y)	4.4e+04	17,18
6.692	6.6891	Si XII d	1s^2 3p $^2P_{3/2}$ - 1s 2p (^{3}P) 3p $^2D_{5/2}$	8.3e+02	16
6.720	6.7180	Si XII	1s^2 2s $^2S_{1/2}$ - 1s 2s 2p (^{3}P) $^2P_{3/2}$ (q)	5.4e+03	16
	6.7200	Si XII	1s^2 2s $^2S_{1/2}$ - 1s 2s 2p (^{3}P) $^2P_{1/2}$ (r)	2.1e+03	
6.740	6.7377	Mg XII	1s $^2S_{1/2}$ - 4p $^2P_{3/2}$	2.1e+04	16,17,18
	6.7382	Mg XII	1s $^2S_{1/2}$ - 4p $^2P_{1/2}$	1.0e+04	
	6.7404	Si XIII	1s^2 $^1S_0$ - 1s 2s $^3S_1$ (z)	1.4e+05	
...	6.7432	Si XII d	1s^2 2p $^2P_{3/2}$ - 1s 2p (^{1}P) 2p $^2D_{5/2}$	8.1e+03	
...	6.8111	Ni XXVI	1s^2 2s $^2S_{1/2}$ - 1s^2 4p $^2P_{3/2}$	6.6e+03	
...	6.8208	Ni XXVI	1s^2 2s $^2S_{1/2}$ - 1s^2 4p $^2P_{1/2}$	3.5e+03	
6.950					17,18
7.102	7.1058	Mg XII	1s $^2S_{1/2}$ - 3p $^2P_{3/2}$	6.3e+04	17,18
7.105	7.1069	Mg XII	1s $^2S_{1/2}$ - 3p $^2P_{1/2}$	3.2e+04	17,18
7.170	7.1690	Fe XXIV	1s^2 2s $^2S_{1/2}$ - 1s^2 5p $^2P_{1/2}$	1.8e+04	16,17,18
	7.1690	Fe XXIV	1s^2 2s $^2S_{1/2}$ - 1s^2 5p $^2P_{3/2}$	3.4e+04	
	7.1709	Al XIII	1s $^2S_{1/2}$ - 2p $^2P_{3/2}$	5.1e+04	
	7.1763	Al XIII	1s $^2S_{1/2}$ - 2p $^2P_{1/2}$	2.5e+04	
7.310	7.3100	Mg XI	1s^2 $^1S_0$ - 1s 5p $^1P_1$	4.0e+03	17,18
7.368	7.3698	Fe XXIV	1s^2 2p $^2P_{1/2}$ - 1s^2 5d $^2D_{3/2}$	1.6e+04	12
7.377					12
7.387	7.3910	Fe XXIV	1s^2 2p $^2P_{1/2}$ - 1s^2 5s $^2S_{1/2}$	6.5e+03	12
7.438	7.4381	Fe XXIV	1s^2 2p $^2P_{3/2}$ - 1s^2 5d $^2D_{5/2}$	1.4e+03	12
	7.4403	Fe XXIV	1s^2 2p $^2P_{3/2}$ - 1s^2 5d $^2D_{3/2}$	2.9e+03	
7.454	7.4620	Fe XXIV	1s^2 2p $^2P_{3/2}$ - 1s^2 5s $^2S_{1/2}$	1.4e+04	12
7.473	7.4730	Mg XI	1s^2 $^1S_0$ - 1s 4p $^1P_1$	9.0e+03	12,17,18
	7.4720	Fe XXIII	2s^2 $^1S_0$ - 2s 5p $^1P_1$	...	
7.477					12,16

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
7.498					12
7.561					12
7.685					16
7.710					17,18
7.757	7.7570	Al XII	$1s^2\ ^1S_0$ - $1s\ 2p\ ^1P_1$ (w)	3.0e+04	17,18
7.774					17,18
7.808	7.8070	Al XII	$1s^2\ ^1S_0$ - $1s\ 2p\ ^3P_1$ (y)	3.2e+03	16,17,18
7.850	7.8510	Mg XI	$1s^2\ ^1S_0$ - $1s\ 3p\ ^1P_1$	2.8e+04	11,12,17,18
7.872	7.8721	Al XII	$1s^2\ ^1S_0$ - $1s\ 2s\ ^3S_1$ (z)	1.2e+04	11,12,17,18
7.902					11,12
7.919					11,12
7.936					12
7.952					16
7.987	7.9828	Fe XXIV	$1s^2\ 2s\ ^2S_{1/2}$ - $1s^2\ 4p\ ^2P_{3/2}$	1.0e+05	11,12,16
7.997	7.9930	Fe XXIV	$1s^2\ 2s\ ^2S_{1/2}$ - $1s^2\ 4p\ ^2P_{1/2}$	5.4e+04	11,12,16
8.069					17,18
8.091					11,12
8.141					16
8.153					12,16,18
8.159					12,18
8.168					12
8.204					12
8.232	8.2311	Fe XXIV	$1s^2\ 2p\ ^2P_{1/2}$ - $1s^2\ 4d\ ^2D_{3/2}$	5.2e+04	11,12,16
8.270					12
8.285	8.2836	Fe XXIV	$1s^2\ 2p\ ^2P_{1/2}$ - $1s^2\ 4s\ ^2S_{1/2}$	2.2e+04	12
8.304	8.3030	Fe XXIII	$2s^2\ ^1S_0$ - $2s\ 4p\ ^1P_1$	1.2e+05	11,12,13,16
8.316	8.3158	Fe XXIV	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 4d\ ^2D_{5/2}$	9.3e+04	11,12,13,16,17
	8.3193	Fe XXIV	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 4d\ ^2D_{3/2}$	1.0e+04	
8.325					14
8.376	8.3729	Fe XXIV	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 4s\ ^2S_{1/2}$	4.6e+04	16
8.419	8.4192	Mg XII	$1s\ ^2S_{1/2}$ - $2p\ ^2P_{3/2}$	4.4e+05	17,18
8.424	8.4246	Mg XII	$1s\ ^2S_{1/2}$ - $2p\ ^2P_{1/2}$	2.2e+05	17,18
8.500	8.4956	Mg XI d	$1s\ 2s\ ^1S_0$ - $2s\ 2p\ ^1P_1$	3.8e+03	18
8.531	8.5290	Fe XXIII	$2s\ 2p\ ^3P_0$ - $2s\ 4d\ ^3D_1$	5.4e+03	12
8.552	8.5500	Fe XXIII	$2s\ 2p\ ^3P_1$ - $2s\ 4d\ ^3D_2$	1.1e+04	11,12,17,18
	8.5513	Mg XI d	$1s\ 2p\ ^1P_1$ - $2p\ 2p\ ^1D_2$	1.2e+04	
8.573					11,12,16,17,18
8.617	8.6140	Fe XXIII	$2s\ 2p\ ^3P_2$ - $2s\ 4d\ ^3D_3$	2.0e+04	11,12,16
	8.6180	Fe XXIII	$2s\ 2p\ ^3P_2$ - $2s\ 4d\ ^3D_2$	3.7e+03	
8.644					11,12

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
8.660					11,12
8.715					11,12
8.722					11,12
8.734					11,12
8.753					12
8.814	8.8140	Fe XXIII	2s 2p $^1P_1$ - 2s 4d $^1D_2$	1.3e+05	11,12,16
8.823					14
8.848					11,12,18
8.906	8.9060	Fe XXIII	2s 2p $^1P_1$ - 2s 4s $^1S_0$	5.0e+04	11,12
8.919					11,12,16
8.933					12
8.976	8.9770	Fe XXII	2s 2p^2 $^2D_{5/2}$ - 2s 2p (^{3}P) 4d $^2F_{7/2}$	...	11,12,14,16,18
8.993					12
9.007					11,12
9.068	9.0613	Ni XXVI	1s^2 2s $^2S_{1/2}$ - 1s^2 3p $^2P_{3/2}$	4.0e+04	11,12
9.073					11,12,14,16,17,18
9.114	9.1050	Ni XXVI	1s^2 2s $^2S_{1/2}$ - 1s^2 3p $^2P_{1/2}$	2.1e+04	11,12,16
9.136					11,12
9.150					18
9.170	9.1690	Mg XI	1s^2 $^1S_0$ - 1s 2p $^1P_1$ (w)	1.9e+05	12,14,16,17,18
9.173					18
9.181	9.1796	Mg X d	1s^2 3d $^2D_{3/2}$ - 1s 2p (^{1}P) 3d $^2F_{5/2}$	1.1e+03	16,17,18
	9.1811	Mg X d	1s^2 3d $^2D_{5/2}$ - 1s 2p (^{1}P) 3d $^2F_{7/2}$	1.6e+03	
9.189	9.1927	Mg X d	1s^2 3p $^2P_{1/2}$ - 1s 2p (^{1}P) 3p $^2D_{3/2}$	8.9e+02	12,17,18
9.194	9.1938	Mg X d	1s^2 3p $^2P_{3/2}$ - 1s 2p (^{1}P) 3p $^2D_{5/2}$	1.4e+03	12,16,17,18
9.202					12
9.215					18
9.224					12
9.233	9.2282	Mg XI	1s^2 $^1S_0$ - 1s 2p $^3P_2$ (x)	2.4e+03	12,14,16,17,18
	9.2312	Mg XI	1s^2 $^1S_0$ - 1s 2p $^3P_1$ (y)	2.1e+04	
9.241					16
9.252					12
9.276					12
9.284	9.2840	Mg X	1s^2 2s $^2S_{1/2}$ - 1s 2s 2p (^{3}P) $^2P_{3/2}$ (q)	8.3e+02	17
9.290					12,16,18
9.298					18
9.314	9.3143	Mg XI	1s^2 $^1S_0$ - 1s 2s $^3S_1$ (z)	7.1e+04	12,16,17,18
9.319	9.3161	Mg X d	1s^2 2p $^2P_{1/2}$ - 1s 2p (^{1}P) 2p $^2D_{3/2}$ (k)	7.50e+02	12,14,16,17,18
	9.3206	Mg X d	1s^2 2p $^2P_{3/2}$ - 1s 2p (^{1}P) 2p $^2D_{5/2}$ (j)	1.2e+03	
...	9.3400	Ni XXV	2s^2 $^1S_0$ - 2s 3p $^1P_1$	2.0e+04	

CHIANTI XUV Line List (cont.)					
λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
9.361	9.3620	Ne X	1s $^2S_{1/2}$ - 6p $^2P_{3/2}$	···	11,12,18
9.383					11,12
9.391	9.3898	Ni XXVI	1s^2 2p $^2P_{1/2}$ - 1s^2 3d $^2D_{3/2}$	2.7e+04	11,12,16,17,18
	9.3900	Ni XXV	2s^2 $^1S_0$ - 2s 3p $^3P_1$	1.0e+04	
9.416	9.4150	Fe XXIII	2p^2 $^1S_0$ - 2s 4p $^1P_1$	3.9e+03	11,12
9.455	9.4510	Fe XXI	2p^2 $^3P_1$ - 2p 4d $^3D_2$	2.5e+05	12
9.476					11,12
9.481	9.4807	Ne X	1s $^2S_{1/2}$ - 5p $^2P_{3/2}$	1.5e+04	11,12,14,16,17,18
	9.4809	Ne X	1s $^2S_{1/2}$ - 5p $^2P_{1/2}$	7.4e+03	
9.525	9.5353	Ni XXVI	1s^2 2p $^2P_{3/2}$ - 1s^2 3d $^2D_{5/2}$	4.8e+04	16
9.542					11,12
9.548	9.5490	Ni XXVI	1s^2 2p $^2P_{3/2}$ - 1s^2 3d $^2D_{3/2}$	5.3e+03	11,12
9.554	9.5590	Fe XXI	2p^2 $^3P_2$ - 2p 4d $^3D_1$	3.7e+03	16
···	9.5668	Ni XXVI	1s^2 2p $^2P_{1/2}$ - 1s^2 3s $^2S_{1/2}$	1.2e+04	
9.586	9.5810	Fe XXI	2p^2 $^1D_2$ - 2p 4d $^3F_3$	1.6e+04	11,12,16
9.632	9.6330	Ni XXV	2s 2p $^3P_1$ - 2s 3d $^3D_2$	2.0e+03	11,12
9.656					16
9.663					11,12
9.690	9.6880	Fe XIX	2p^4 $^3P_2$ - 2p^3 (^{2}D) 5d $^3D_3$	···	11,12
9.710	9.7080	Ne X	1s $^2S_{1/2}$ - 4p $^2P_{3/2}$	3.3e+04	11,12,17,18
9.711	9.7085	Ne X	1s $^2S_{1/2}$ - 4p $^2P_{1/2}$	1.6e+04	11,12,16,17,18
9.726	9.7321	Ni XXVI	1s^2 2p $^2P_{3/2}$ - 1s^2 3s $^2S_{1/2}$	2.5e+04	12
9.795	9.7990	Fe XIX	2p^4 $^3P_1$ - 2p^3 (^{2}D) 5d $^3D_2$	···	11,12
9.807	9.8090	Cr XXII	1s^2 2p $^2P_{1/2}$ - 1s^2 4d $^2D_{3/2}$	1.0e+03	11,12,16
9.847	9.8420	Fe XIX	2p^4 $^3P_2$ - 2p^3 (^{4}S) 5d $^3D_3$	···	11,12
9.858					16
9.896					12
9.902					16
9.940					12
9.945					12
9.973	9.9680	Ni XXV	2s 2p $^1P_1$ - 2s 3d $^1D_2$	4.1e+04	11,12
9.988	9.9910	Fe XX	2p^3 $^4S_{3/2}$ - 2p^2 (^{3}P) 4d $^4P_{3/2}$	···	14
9.998	10.0015	Fe XXV	1s 2s $^3S_1$ - 1s 3p $^3P_2$	8.9e+03	11,12,16
10.021	10.0232	Na XI	1s $^2S_{1/2}$ - 2p $^2P_{3/2}$	1.9e+04	12,14
	10.0286	Na XI	1s $^2S_{1/2}$ - 2p $^2P_{1/2}$	9.3e+03	
10.069					16
10.134	10.1340	Fe XVII	2s^2 2p^6 $^1S_0$ - 2s 2p^6 5p $^3P_1$	···	14,16
10.250	10.2385	Ne X	1s $^2S_{1/2}$ - 3p $^2P_{3/2}$	7.4e+04	16
	10.2396	Ne X	1s $^2S_{1/2}$ - 3p $^2P_{1/2}$	3.7e+04	
10.328	10.3220	Ni XXV	2s 2p $^1P_1$ - 2s 3s $^1S_0$	2.4e+04	16

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
10.359					16
...	10.3690	Fe XXV	1s 2p ^{3}P$_1$ - 1s 3s ^{3}S$_1$	1.9e+03	
10.382	10.3860	Fe XVII	2s^2 2p^6 ^{1}S$_0$ - 2s^2 2p^5 (^{2}P$_{1/2}$) 7d ^{1}P$_1$	...	14
10.502	10.4985	Fe XXV	1s 2p ^{3}P$_2$ - 1s 3s ^{3}S$_1$	1.6e+03	16
	10.5060	Fe XVII	2s^2 2p^6 ^{1}S$_0$ - 2s^2 2p^5 (^{2}P$_{3/2}$) 7d ^{3}D$_1$	...	
10.530	10.5330	Co XXV	1s^2 2p ^{2}P$_{3/2}$ - 1s^2 3s ^{2}S$_{1/2}$	1.1e+03	16
10.564	10.5597	Fe XXIII	2s^2 ^{1}S$_0$ - 2p 3s ^{1}P$_1$	6.5e+03	17,18
	10.5640	Fe XIX	2p^4 ^{3}P$_1$ - 2p^3 (^{2}P) 4d ^{3}D$_2$	...	
10.579	10.5859	Fe XXV	1s 2p ^{1}P$_1$ - 1s 3s ^{1}S$_0$	6.3e+03	16,17,18
10.620	10.6190	Fe XXIV	1s^2 2s ^{2}S$_{1/2}$ - 1s^2 3p ^{2}P$_{3/2}$	6.0e+05	17,18
10.636	10.6350	Fe XIX	2p^4 ^{3}P$_2$ - 2p^3 (^{2}D) 4d ^{3}S$_1$	...	14,17,18
10.647	10.6440	Fe XIX	2p^4 ^{3}P$_2$ - 2p^3 (^{2}D) 4d ^{3}P$_2$	...	16
10.654	10.6550	Fe XVII	2s^2 2p^6 ^{1}S$_0$ - 2s^2 2p^5 (^{2}P$_{1/2}$) 6d ^{1}P$_1$	...	16,17
10.662	10.6630	Fe XXIV	1s^2 2s ^{2}S$_{1/2}$ - 1s^2 3p ^{2}P$_{1/2}$	3.2e+05	14,17,18
10.684	10.6840	Fe XIX	2p^4 ^{3}P$_2$ - 2p^3 (^{2}D) 4d ^{3}F$_3$	...	17,18
10.718					18
10.738	10.7350	Fe XIX	2p^4 ^{3}P$_1$ - 2p^3 (^{2}D) 4d ^{3}S$_1$	...	18
10.769	10.7643	Ne IX	1s^2 ^{1}S$_0$ - 1s 5p ^{1}P$_1$	2.7e+03	16,17,18
	10.7700	Fe XIX	2p^4 ^{3}P$_1$ - 2p^3 (^{2}D) 4d ^{3}D$_2$	...	
	10.7700	Fe XVII	2s^2 2p^6 ^{1}S$_0$ - 2s^2 2p^5 (^{2}P$_{3/2}$) 6d ^{3}D$_1$	...	
10.778					14,18
10.791					14
10.818	10.8130	Fe XIX	2p^4 ^{3}P$_2$ - 2p^3 (^{4}S) 4d ^{3}D$_3$	...	16,17,18
10.827	10.8240	Fe XIX	2p^4 ^{1}D$_2$ - 2p^3 (^{2}D) 4d ^{1}D$_2$	...	18
10.857					18
10.933	10.9351	Fe XXIII	2s 2p ^{3}P$_1$ - 2p 3p ^{3}D$_2$	4.7e+03	17,18
	10.9330	Fe XIX	2p^4 ^{3}P$_1$ - 2p^3 (^{4}S) 4d ^{3}D$_2$	...	
10.980	10.9806	Fe XXIII	2s^2 ^{1}S$_0$ - 2s 3p ^{1}P$_1$	5.7e+05	16,17,18
10.996	11.0003	Ne IX	1s^2 ^{1}S$_0$ - 1s 4p ^{1}P$_1$	6.0e+03	14,16,17,18
	11.0027	Na X	2s^2 ^{1}S$_0$ - 1s 2p ^{1}P$_1$	6.2e+03	
11.014	11.0181	Fe XXIII	2s^2 ^{1}S$_0$ - 2s 3p ^{3}P$_1$	2.8e+05	17,18
11.026	11.0229	Fe XVII	2p^6 ^{1}S$_0$ - 2s 2p^6 4p ^{1}P$_1$	8.8e+03	14,16,17,18
	11.0290	Fe XXIV	1s^2 2p ^{2}P$_{1/2}$ - 1s^2 3d ^{2}D$_{3/2}$	4.0e+05	
11.041	11.0229	Fe XVII	2p^6 ^{1}S$_0$ - 2s 2p^6 4p ^{3}P$_1$	1.1e+03	18
11.132	11.1320	Fe XVII	2s^2 2p^6 ^{1}S$_0$ - 2s^2 2p^5 (^{2}P$_{1/2}$) 5d ^{1}P$_1$	...	14,16,17,18
11.147					18
11.172	11.1709	Fe XXIV	1s^2 2p ^{2}P$_{3/2}$ - 1s^2 3d ^{2}D$_{5/2}$	7.1e+05	14,16,17,18
11.189	11.1879	Fe XXIV	1s^2 2p ^{2}P$_{3/2}$ - 1s^2 3d ^{2}D$_{3/2}$	7.8e+04	14,16,17,18
11.253	11.2530	Fe XVII	2s^2 2p^6 - 2s^2 2p^5 (^{2}P$_{3/2}$) 5d	...	14,16,17,18
	11.2530	Fe XVIII	2p^5 ^{2}P$_{1/2}$ - 2p^4 (^{1}S) 4d ^{2}D$_{3/2}$	...	

CHIANTI XUV Line List (cont.)					
λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
11.269	11.2606	Fe XXIV	$1s^2\ 2p\ ^2P_{1/2}$ - $1s^2\ 3s\ ^2S_{1/2}$	1.8e+05	14
11.292	11.2984	Fe XXIII	$2s\ 2p\ ^3P_0$ - $2s\ 3d\ ^3D_1$	2.6e+04	17,18
11.311					17,18
11.325	11.3252	Fe XXIII	$2s\ 2p\ ^3P_1$ - $2s\ 3d\ ^3D_2$	4.7e+04	17,18
11.334	11.3380	Fe XXIII	$2s\ 2p\ ^3P_1$ - $2s\ 3d\ ^3D_1$	1.9e+04	14,16
11.420	11.4200	Fe XVIII	$2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 4d\ ^2F_{5/2}$	...	17,18
11.429	11.4263	Fe XXIV	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 3s\ ^2S_{1/2}$	3.7e+05	16
11.443	11.4414	Fe XXIII	$2s\ 2p\ ^3P_2$ - $2s\ 3d\ ^3D_3$	7.8e+04	14,16,17,18
	11.4417	Fe XXII	$2s^2\ 2p\ ^2P_{1/2}$ - $2s\ 2p\ (^3P)\ 3p\ ^2D_{3/2}$	2.1e+05	
11.458	11.4580	Fe XVIII	$2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 4d\ ^4F_{5/2}$	...	17,18
11.480					17,18
11.495	11.5101	Fe XXII	$2s^2\ 2p\ ^2P_{1/2}$ - $2s\ 2p\ (^3P)\ 3p\ ^2P_{3/2}$	7.6e+04	14,16
11.527	11.5196	Fe XXIII	$2p^2\ ^3P_0$ - $2p\ 3d\ ^3D_1$	1.4e+04	1,17,18
	11.5260	Fe XVIII	$2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 4d\ ^2D_{5/2}$	...	
11.537					14
11.545	11.5470	Ne IX	$1s^2\ ^1S_0$ - $1s\ 3p\ ^1P_1$	1.8e+04	16,17,18
11.580					18
11.594					18
11.640	11.6457	Fe XXIII	$2s\ 2p\ ^3P_1$ - $2s\ 3s\ ^1S_0$	1.3e+04	18
...	11.6690	Fe XXII	$2s^2\ 2p\ ^2P_{3/2}$ - $2s\ 2p\ (^3P)\ 3p\ ^2P_{3/2}$	2.7e+04	
11.740	11.7363	Fe XXIII	$2s\ 2p\ ^1P_1$ - $2s\ 3d\ ^1D_2$	1.1e+06	14,16,17,18
11.771	11.7675	Fe XXII	$2s^2\ 2p\ ^2P_{1/2}$ - $2s^2\ (^1S)\ 3d\ ^2D_{3/2}$	1.1e+06	14,16,17,18
11.825	11.7955	Fe XXII	$1s^2\ 2s\ 2p^2\ ^4P_{3/2}$ - $2s\ 2p\ (^3P)\ 3d\ ^2D_{5/2}$	9.3e+04	
	11.7960	Fe XXII	$1s^2\ 2s\ 2p^2\ ^4P_{1/2}$ - $2s\ 2p\ (^3P)\ 3d\ ^4D_{3/2}$	1.2e+04	
	11.8207	Fe XXII	$1s^2\ 2s\ 2p^2\ ^4P_{5/2}$ - $2s\ 2p\ (^3P)\ 3d\ ^4D_{5/2}$	2.4e+04	17,18
11.836	11.8320	Ni XX	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^1D)\ 3d\ ^2D_{5/2}$	1.7e+04	14,16
	11.8410	Ni XX	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^1D)\ 3d\ ^2P_{3/2}$	9.0e+03	
11.864	11.8734	Fe XXIII	$2s\ 2p\ ^3P_2$ - $2s\ 3s\ ^3S_1$	2.3e+04	17,18
11.885	11.8852	Fe XXII	$1s^2\ 2s\ 2p^2\ ^4P_{3/2}$ - $2s\ 2p\ (^3P)\ 3d\ ^4P_{5/2}$	4.9e+04	16,18
...	11.8971	Fe XXIII	$2p^2\ ^1S_0$ - $2p\ 3d\ ^1P_1$	4.1e+04	
11.926	11.9208	Fe XXII	$2s^2\ 2p\ ^2P_{3/2}$ - $2s^2\ (^1S)\ 3d\ ^2D_{5/2}$	7.1e+04	14
11.934	11.9336	Fe XXII	$2s^2\ 2p\ ^2P_{3/2}$ - $2s^2\ (^1S)\ 3d\ ^2D_{3/2}$	2.1e+05	16,17,18
11.972	11.9750	Fe XXII	$1s^2\ 2s\ 2p^2\ ^4P_{5/2}$ - $2s\ 2p\ (^3P)\ 3d\ ^4F_{7/2}$	1.6e+04	14,16,17,18
...	12.0097	Fe XXII	$1s^2\ 2s\ 2p^2\ ^2S_{1/2}$ - $2s\ 2p\ (^3P)\ 3d\ ^2P_{3/2}$	1.8e+04	
...	12.0578	Fe XXII	$1s^2\ 2s\ 2p^2\ ^2D_{3/2}$ - $2s\ 2p\ (^3P)\ 3d\ ^2F_{5/2}$	6.0e+04	
...	12.0764	Fe XXII	$1s^2\ 2s\ 2p^2\ ^2S_{1/2}$ - $2s\ 2p\ (^1P)\ 3d\ ^2D_{3/2}$	1.4e+04	
...	12.0778	Fe XXII	$1s^2\ 2s\ 2p^2\ ^2P_{3/2}$ - $2s\ 2p\ (^1P)\ 3d\ ^2D_{5/2}$	2.9e+04	
...	12.0912	Fe XXII	$1s^2\ 2s\ 2p^2\ ^2D_{5/2}$ - $2s\ 2p\ (^3P)\ 3d\ ^2F_{5/2}$	5.2e+04	
...	12.0981	Fe XXIII	$2p^2\ ^1D_2$ - $2p\ 3s\ ^1P_1$	1.9e+04	
12.122	12.1227	Fe XVII	$2s^2\ 2p^6$ - $2s^2\ 2p^5\ (^2P_{1/2})\ 4d$	1.5e+05	1,17,18

CHIANTI XUV Line List (cont.)					
λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
12.128	12.1321	Ne X	1s ^{2}S$_{1/2}$ - 2p ^{2}P$_{3/2}$	7.4e+05	14,17,18
	12.1375	Ne X	1s ^{2}S$_{1/2}$ - 2p ^{2}P$_{1/2}$	3.7e+05	
12.153	12.1760	Fe XXIII	2s 2p ^{1}P$_1$ - 2s 3s ^{1}S$_0$	6.2e+05	17,18
12.199	12.1926	Fe XXII	1s^2 2s 2p^2 ^{2}P$_{1/2}$ - 2s 2p (^{3}P) 3d ^{2}P$_{3/2}$	2.9e+04	14,17,18
	12.1931	Fe XXII	1s^2 2s 2p^2 ^{2}D$_{3/2}$ - 2s 2p (^{3}P) 3d ^{2}D$_{5/2}$	1.4e+05	
...	12.2273	Fe XXII	1s^2 2s 2p^2 ^{2}D$_{5/2}$ - 2s 2p (^{3}P) 3d ^{2}D$_{5/2}$	2.1e+04	
12.264	12.2639	Fe XVII	2s^2 2p^6 - 2s^2 2p^5 (^{2}P$_{3/2}$) 4d	1.3e+05	17,18
12.285	12.2850	Fe XXI	2p^2 ^{3}P$_0$ - 2s^2 2p 3d ^{3}D$_1$	1.4e+06	17,18
12.399	12.3980	Fe XXI	2p^2 ^{3}P$_1$ - 2s^2 2p 3d ^{3}D$_1$	2.5e+05	14,17,18
12.408					17,18
12.429	12.4351	Ni XIX	2p^6 ^{1}S$_0$ - 2p^5 3d ^{1}P$_1$	2.3e+04	14,17,18
12.460	12.4620	Fe XXI	2p^2 ^{3}P$_1$ - 2s^2 2p 3d ^{1}D$_2$	4.4e+04	17,18
	12.4650	Fe XXI	2p^2 ^{3}P$_2$ - 2s^2 2p 3d ^{3}D$_1$	1.5e+04	
12.501					14,17,18
12.522	12.5250	Fe XXI	2p^2 ^{3}P$_2$ - 2s^2 2p 3d ^{3}F$_3$	5.6e+04	17,18
12.550					17,18
12.566					17,18
12.581	12.5855	Fe XXII	1s^2 2s 2p^2 ^{2}P$_{3/2}$ - 2s 2p (^{3}P) 3d ^{2}D$_{5/2}$	1.3e+04	14,17,18
	12.5880	Fe XXI	2p^2 ^{3}P$_2$ - 2s^2 2p 3d ^{3}F$_2$	2.4e+04	
12.599					17,18
12.622	12.6230	Cr XXII	1s^2 2s ^{2}S$_{1/2}$ - 1s^2 3p ^{2}P$_{3/2}$	8.4e+03	18
	12.6230	Fe XXI	2p^2 ^{1}S$_0$ - 2s^2 2p 3d ^{1}P$_1$	1.1e+04	
12.638					18
12.654	12.6538	Fe XXIII	2p^2 ^{1}D$_2$ - 2s 3p ^{1}P$_1$	8.9e+03	14,17,18
	12.6560	Ni XIX	2p^6 ^{1}S$_0$ - 2p^5 3d ^{3}D$_1$	8.0e+03	
12.682	12.6780	Fe XVII	2s^2 2p^6 - 2s^2 2p^5 (^{2}P$_{3/2}$) 4s	3.6e+03	17,18
...	12.7330	Fe XXI	2p^2 ^{1}D$_2$ - 2s^2 2p 3d ^{1}D$_2$	1.4e+04	
12.754					14,18
12.765					18
12.775					18
12.788	12.7930	Fe XXI	2p^2 ^{1}D$_2$ - 2s^2 2p 3d ^{3}F$_2$	1.3e+04	18
12.812	12.8173	Fe XX	2s^2 2p^3 ^{4}S$_{3/2}$ - 2s^2 2p^2 (^{3}P) 3d ^{4}P$_{3/2}$	5.6e+05	1,14,17,18
	12.8173	Fe XX	2s^2 2p^3 ^{4}S$_{3/2}$ - 2s^2 2p^2 (^{3}P) 3d ^{4}P$_{5/2}$	5.2e+05	
12.829					14,17,18
12.847					17,18
12.888	12.8884	Fe XX	2s^2 2p^3 ^{2}D$_{5/2}$ - 2s^2 2p^2 (^{1}D) 3d ^{2}F$_{7/2}$	1.1e+04	18
12.904					17,18
12.912					14
12.925	12.9251	Fe XX	2s^2 2p^3 ^{2}D$_{5/2}$ - 2s^2 2p^2 (^{1}D) 3d ^{2}D$_{5/2}$	4.0e+03	14,17,18
	12.9280	Fe XXI	2p^2 ^{3}P$_0$ - 2s^2 2p 3s ^{3}P$_1$	1.0e+04	

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
12.940					18
12.952					14,17,18
12.966					14,17,18
12.983	12.9796	Fe XX	$2s^2\ 2p^3\ ^2D_{3/2}$ - $2s^2\ 2p^2\ (^3P)\ 3d\ ^2D_{5/2}$	4.4e+04	17,18
12.998					18
13.009					18
13.019					14,17,18
13.053	13.0431	Fe XX	$2s^2\ 2p^3\ ^2D_{5/2}$ - $2s^2\ 2p^2\ (^3P)\ 3d\ ^2D_{5/2}$	1.3e+04	17,18
	13.0530	Fe XXI	$2p^2\ ^3P_1$ - $2s^2\ 2p\ 3s\ ^3P_1$	6.0e+03	
	13.0553	Fe XX	$2s^2\ 2p^3\ ^2P_{3/2}$ - $2s^2\ 2p^2\ (^1D)\ 3d\ ^2F_{5/2}$	5.0e+03	
13.060	13.0553	Fe XX	$2s^2\ 2p^3\ ^2P_{3/2}$ - $2s^2\ 2p^2\ (^1D)\ 3d\ ^2F_{5/2}$	5.0e+03	14
13.091	13.0823	Fe XX	$2s^2\ 2p^3\ ^2D_{5/2}$ - $2s^2\ 2p^2\ (^3P)\ 3d\ ^2F_{7/2}$	2.3e+04	14,17,18
	13.1132	Fe XX	$2s^2\ 2p^3\ ^2D_{5/2}$ - $2s^2\ 2p^2\ (^3P)\ 3d\ ^4P_{3/2}$	2.2e+04	
	13.1132	Fe XX	$2s^2\ 2p^3\ ^2D_{5/2}$ - $2s^2\ 2p^2\ (^3P)\ 3d\ ^4P_{5/2}$	7.6e+04	
	13.1280	Fe XXI	$2p^2\ ^3P_2$ - $2s^2\ 2p\ 3s\ ^3P_1$	1.9e+04	
13.143	13.1371	Fe XXII	$1s^2\ 2s\ 2p^2\ ^2D_{5/2}$ - $2s\ 2\ (^1S)\ 3p\ ^2P_{3/2}$	2.9e+04	14,17,18
	13.1500	Fe XXII	$1s^2\ 2s\ 2p^2\ ^2D_{3/2}$ - $2s^2\ (^1S)\ 3p\ ^2P_{1/2}$	1.2e+05	
13.162	13.1601	Fe XX	$2s^2\ 2p^3\ ^2P_{1/2}$ - $2s^2\ 2p^2\ (^3P)\ 3d\ ^2D_{3/2}$	1.1e+04	14,17,18
13.232					14
13.253					17,18
13.265	13.2640	Fe XIX	$2s^2\ 2p^4\ ^3P_2$ - $2p^3\ (^2P^*)\ 3d\ ^3D_3$	1.0e+04	14,17,18
13.279					14,17,18
...	13.2920	Cr XXII	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 3d\ ^2D_{5/2}$	1.2e+04	
13.308	13.3080	Ni XX	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 3s\ ^4P_{5/2}$	6.9e+03	17,18
13.323	13.3190	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2s\ 2p^5\ (^3P^*)\ 3p\ ^2D_{5/2}$	6.6e+03	14,17,18
	13.3190	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2s\ 2p^5\ (^3P^*)\ 3p\ ^2P_{1/2}$	6.5e+03	
13.356	13.3480	Fe XIX	$2s^2\ 2p^4\ ^3P_0$ - $2p^3\ (^2P^*)\ 3d\ ^3P_1$	1.2e+04	17,18
	13.3551	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2s\ 2p^5\ (^3P^*)\ 3p\ ^2P_{3/2}$	9.8e+03	
	13.3551	Fe XXII	$1s^2\ 2s\ 2p^2\ ^2S_{1/2}$ - $2s^2\ (^1S)\ 3p\ ^2P_{1/2}$	2.4e+04	
13.377	13.3740	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2s\ 2p^5\ (^3P^*)\ 3p\ ^4P_{5/2}$	1.0e+04	14,17,18
13.404	13.3969	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2s\ 2p^5\ (^3P^*)\ 3p\ ^4D_{3/2}$	5.2e+03	
13.426	13.4250	Fe XIX	$2s^2\ 2p^4\ ^3P_2$ - $2p^3\ (^2D^*)\ 3d\ ^1F_3$	1.9e+04	17,18
13.448	13.4470	Ne IX	$1s^2\ ^1S_0$ - $1s\ 2p\ ^1P_1$	1.2e+05	1,14,17,18
13.464	13.4640	Fe XIX	$2s^2\ 2p^4\ ^3P_2$ - $2p^3\ (^2D^*)\ 3d\ ^3S_1$	5.5e+04	
13.507	13.5040	Fe XIX	$2s^2\ 2p^4\ ^3P_2$ - $2p^3\ (^2D^*)\ 3d\ ^3D_2$	9.7e+03	1,17,18
13.519	13.5210	Fe XIX	$2s^2\ 2p^4\ ^3P_2$ - $2p^3\ (^2D^*)\ 3d\ ^3D_3$	2.0e+05	14,17,18
13.551	13.5515	Fe XXII	$1s^2\ 2s\ 2p^2\ ^2P_{3/2}$ - $2s\ 2\ (^1S)\ 3p\ ^2P_{3/2}$	8.2e+03	1,17,18
	13.5529	Ne IX	$1s^2\ ^1S_0$ - $1s\ 2p\ ^3P_1$	1.2e+04	
	13.5550	Cr XXII	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 3s\ ^2S_{1/2}$	5.8e+03	
	13.5680	Fe XIX	$2s^2\ 2p^4\ ^3P_2$ - $2p^3\ (^2D^*)\ 3d\ ^3P_2$	8.7e+04	

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
13.631					17,18
13.649	13.6470	Fe XIX	$2s^2\ 2p^4\ ^3P_2$ - $2p^3\ (^2D^*)\ 3d\ ^3F_3$	1.2e+04	14,17,18
13.672	13.6700	Fe XIX	$2s^2\ 2p^4\ ^3P_1$ - $2p^3\ (^2D^*)\ 3d\ ^3D_2$	2.2e+04	14,17,18
13.700	13.6987	Ne IX	$1s^2\ ^1S_0$ - $1s\ 2s\ ^3S_1$	4.3e+04	1,14,17,18
13.719					17,18
13.738	13.7360	Fe XIX	$2s^2\ 2p^4\ ^1D_2$ - $2p^3\ (^2D^*)\ 3d\ ^1F_3$	1.7e+04	17,18
	13.7361	Fe XX	$2s^2\ 2p^3\ ^4S_{3/2}$ - $2s^2\ 2p^2\ (^3P)\ 3s\ ^4P_{5/2}$	9.7e+04	
13.778	13.7791	Fe XIX	$2s^2\ 2p^4\ ^1D_2$ - $2p^3\ (^2D^*)\ 3d\ ^3S_1$	1.0e+04	1,17,18
	13.7790	Ni XIX	$2p^6\ ^1S_0$ - $2p^5\ 3s\ ^1P_1$	7.7e+03	
13.795	13.7950	Fe XIX	$2s^2\ 2p^4\ ^3P_2$ - $2p^3\ (^4S^*)\ 3d\ ^3D_3$	6.0e+04	14,17,18
13.827	13.8181	Fe XX	$2s^2\ 2p^3\ ^4S_{3/2}$ - $2s^2\ 2p^2\ (^3P)\ 3s\ ^4P_{3/2}$	5.0e+04	1,17,18
	13.8231	Fe XVII	$2p^6\ ^1S_0$ - $2s\ 2p^6\ 3p\ ^1P_1$	7.3e+04	
13.844					14,17,18
13.891	13.8910	Fe XVII	$2p^6\ ^1S_0$ - $2s\ 2p^6\ 3p\ ^3P_1$	1.1e+04	1,17,18
13.934					17,18
13.948	13.9451	Fe XX	$2s^2\ 2p^3\ ^4S_{3/2}$ - $2s^2\ 2p^2\ (^3P)\ 3s\ ^4P_{1/2}$	3.9e+04	1,14
	13.9540	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^1S)\ 3d\ ^2D_{5/2}$	2.2e+04	
13.958	13.9540	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^1S)\ 3d\ ^2D_{5/2}$	2.2e+04	17,18
13.967	13.9690	Fe XIX	$2s^2\ 2p^4\ ^1D_2$ - $2p^3\ (^2D^*)\ 3d\ ^3F_3$	3.3e+03	14
14.017	14.0096	Fe XX	$2s^2\ 2p^3\ ^2D_{5/2}$ - $2s^2\ 2p^2\ (^3P)\ 3s\ ^2P_{3/2}$	2.1e+04	17,18
	14.0146	Fe XX	$2s^2\ 2p^3\ ^2D_{3/2}$ - $2s^2\ 2p^2\ (^3P)\ 3s\ ^2P_{1/2}$	1.7e+04	
14.028					1,14
14.041	14.0430	Ni XIX	$2p^6\ ^1S_0$ - $2p^5\ 3s\ ^3P_1$	1.3e+04	14,17,18
14.078	14.0766	Fe XX	$2s^2\ 2p^3\ ^2D_{5/2}$ - $2s^2\ 2p^2\ (^3P)\ 3s\ ^4P_{5/2}$	2.4e+04	1,14,17,18
	14.0770	Ni XIX	$2p^6\ ^1S_0$ - $2p^5\ 3s\ ^3P_2$	7.9e+03	
14.124	14.1209	Fe XVIII	$2s^2\ 2p^5\ ^2P_{1/2}$ - $2p^4\ (^1S)\ 3d\ ^2D_{3/2}$	2.2e+03	17,18
	14.1359	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^1D)\ 3d\ ^2P_{1/2}$	6.2e+03	
14.152	14.1519	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^1D)\ 3d\ ^2D_{3/2}$	1.4e+04	1,17,18
14.208	14.2030	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^1D)\ 3d\ ^2D_{5/2}$	4.0e+05	1,14,17,18
	14.2078	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^1D)\ 3d\ ^2P_{3/2}$	2.1e+05	
14.262	14.2566	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^1D)\ 3d\ ^2S_{1/2}$	7.3e+04	1,14,17,18
14.311					17,18
14.345	14.3439	Fe XVIII	$2s^2\ 2p^5\ ^2P_{1/2}$ - $2p^4\ (^1D)\ 3d\ ^2P_{1/2}$	2.6e+04	1,17,18
14.360	14.3604	Fe XVIII	$2s^2\ 2p^5\ ^2P_{1/2}$ - $2p^4\ (^1D)\ 3d\ ^2D_{3/2}$	4.1e+04	17,18
14.373	14.3740	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 3d\ ^2D_{5/2}$	1.4e+05	1,17,18
14.388					14
14.422	14.4179	Fe XVIII	$2s^2\ 2p^5\ ^2P_{1/2}$ - $2p^4\ (^1D)\ 3d\ ^2P_{3/2}$	3.2e+04	14,17,18
14.456	14.4530	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 3d\ ^2D_{3/2}$	8.8e+03	1,17,18
...	14.4682	Fe XVIII	$2s^2\ 2p^5\ ^2P_{1/2}$ - $2p^4\ (^1D)\ 3d\ ^2S_{1/2}$	1.4e+04	
14.482	14.4850	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 3d\ ^4F_{5/2}$	2.6e+04	14,17,18

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
14.496					14
14.535	14.5341	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 3d\ ^2F_{5/2}$	9.8e+04	1,17,18
14.552	14.5510	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 3d\ ^4P_{3/2}$	4.8e+04	1,14,17,18
14.585	14.5811	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 3d\ ^4P_{1/2}$	2.2e+04	17,18
14.611	14.6098	Fe XVIII	$2s^2\ 2p^5\ ^2P_{1/2}$ - $2p^4\ (^3P)\ 3d\ ^2P_{3/2}$	7.0e+03	17,18
14.669	14.6670	Fe XIX	$2s^2\ 2p^4\ ^3P_2$ - $2p^3\ (^2D^*)\ 3s\ ^3D_3$	6.6e+03	1,14,17,18
	14.6705	Fe XVIII	$2s^2\ 2p^5\ ^2P_{1/2}$ - $2p^4\ (^3P)\ 3d\ ^2D_{3/2}$	7.3e+03	
14.703					17,18
14.739					14,17,18
14.747					1,14
14.760					14,17,18
14.818	14.8205	O VIII	$1s\ ^2S_{1/2}$ - $5p\ ^2P_{3/2}$	3.4e+04	1,14,17,18
	14.8207	O VIII	$1s\ ^2S_{1/2}$ - $5p\ ^2P_{1/2}$	1.7e+04	
14.873	14.8681	Fe XVIII	$2s^2\ 2p^5\ ^2P_{1/2}$ - $2p^4\ (^3P)\ 3d\ ^4D_{1/2}$	4.2e+03	14,17,18
14.908					17,18
14.919					14
14.930					17,18
14.962					14
14.974	14.9700	Fe XIX	$2s^2\ 2p^4\ ^3P_2$ - $2p^3\ (^4S^*)\ 3s\ ^3S_1$	4.4e+03	17,18
15.012	15.0150	Fe XVII	$2p^6\ ^1S_0$ - $2p^5\ 3d\ ^1P_1$	1.1e+06	1,14,17,18
15.040					17,18
15.080					14,17,18
15.114					17,18
15.177	15.1760	O VIII	$1s\ ^2S_{1/2}$ - $4p\ ^2P_{3/2}$	7.6e+04	1,14,17,18
	15.1765	O VIII	$1s\ ^2S_{1/2}$ - $4p\ ^2P_{1/2}$	3.8e+04	
15.208					1,17,18
15.265	15.2621	Fe XVII	$2p^6\ ^1S_0$ - $2p^5\ 3d\ ^3D_1$	2.6e+05	1,14,17,18
15.279					1,18
15.289					17
15.374					1,14,17,18
15.410					17,18
15.432					17,18
15.454	15.4500	Fe XVII	$2p^6\ ^1S_0$ - $2p^5\ 3d\ ^3P_1$	3.4e+04	1,14,15,17,18
15.495					1,14,15,17,18
15.516					14,15,17,18
15.626	15.6250	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^1D)\ 3s\ ^2D_{5/2}$	4.0e+04	1,14,15,17,18
15.679					17,18
15.766					1,14,15,17,18
15.829	15.8281	Fe XVIII	$2s^2\ 2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 3s\ ^4P_{3/2}$	3.3e+04	1,14,15,17,18
15.870					1,14,15,17,18

CHIANTI XUV Line List (cont.)					
λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
16.003	16.0050	Fe XVIII	$2s^2\ 2p^5\ {}^2P_{3/2}$ - $2p^4\ ({}^3P)\ 3s\ {}^2P_{3/2}$	5.8e+04	1,14,15,17,18
	16.0055	O VIII	$1s\ {}^2S_{1/2}$ - $3p\ {}^2P_{3/2}$	2.2e+05	
	16.0067	O VIII	$1s\ {}^2S_{1/2}$ - $3p\ {}^2P_{1/2}$	1.1e+05	
16.017					17,18
16.074	16.0720	Fe XVIII	$2s^2\ 2p^5\ {}^2P_{3/2}$ - $2p^4\ ({}^3P)\ 3s\ {}^4P_{5/2}$	1.4e+05	1,14,15,17,18
16.108					1,14,15,17,18
16.167	16.1670	Fe XVIII	$2s\ 2p^6\ {}^2S_{1/2}$ - $2s\ 2p^5\ ({}^3P)\ 3s\ {}^2P_{3/2}$	8.9e+04	1,14,15,17,18
16.238	16.2380	Fe XVII	$2p^6\ {}^1S_0$ - $2p^5\ 3p\ {}^3P_2$	5.8e+03	1,17,18
16.249					15
16.274					14,15,17,18
16.312	16.2950	Fe XVIII	$2s\ 2p^6\ {}^2S_{1/2}$ - $2s\ 2p^5\ ({}^3P)\ 3s\ {}^4P_{3/2}$	2.4e+04	14,15,17,18
16.344	16.3360	Fe XVII	$2p^6\ {}^1S_0$ - $2p^5\ 3p\ {}^3D_2$	8.3e+03	1,14,15,17,18,20
16.618					17,18
16.631					15,18
16.774	16.7760	Fe XVII	$2p^6\ {}^1S_0$ - $2p^5\ 3s\ {}^3P_1$	3.7e+05	1,14,15,17,18,20
16.821					17,18
16.956					14
17.051	17.0510	Fe XVII	$2p^6\ {}^1S_0$ - $2p^5\ 3s\ {}^1P_1$	4.4e+05	1,14,15,17,18,20
17.098	17.0960	Fe XVII	$2p^6\ {}^1S_0$ - $2p^5\ 3s\ {}^3P_2$	2.5e+05	1,15,17,18,20
17.205	17.2010	Fe XVI	$2p^6\ 3p$ - $2p^5\ 3s\ 3p$	...	15,17,18
17.318					15
17.367	17.3500	Fe XVIII	$2s\ 2p^6\ {}^2S_{1/2}$ - $2p^4\ ({}^1S)\ 3p\ {}^2P_{3/2}$	5.2e+03	15
	17.3700	Cr XVI	$2p^5\ {}^2P_{3/2}$ - $2p^4\ ({}^1D)\ 3d\ {}^2D_{5/2}$	...	
17.390	17.3960	O VII	$1s^2\ {}^1S_0$ - $1s\ 5p\ {}^1P_1$	2.1e+03	15,18
17.499	17.5010	Fe XVI	$2p^6\ 3p$ - $2p^5\ 3s\ 3p$	...	15,17,18
	17.5010	Fe XVI	$2p^6\ 3d$ - $2p^5\ 3s\ 3d$	...	
17.622	17.6220	Fe XVIII	$2s\ 2p^6\ {}^2S_{1/2}$ - $2p^4\ ({}^1D)\ 3p\ {}^2P_{3/2}$	2.4e+05	1,14,15,17,18
17.684					15
17.765	17.7680	O VII	$1s^2\ {}^1S_0$ - $1s\ 4p\ {}^1P_1$	4.7e+03	14,15
17.798	17.8040	Fe XVIII	$2s\ 2p^6\ {}^2S_{1/2}$ - $2p^4\ ({}^1D)\ 3p\ {}^2D_{3/2}$	6.4e+03	15
...	18.0290	Fe XVIII	$2s\ 2p^6\ {}^2S_{1/2}$ - $2p^4\ ({}^3P)\ 3p\ {}^2D_{3/2}$	6.9e+03	
18.090	18.0900	Fe XVIII	$2s\ 2p^6\ {}^2S_{1/2}$ - $2p^4\ ({}^3P)\ 3p\ {}^4S_{3/2}$	4.8e+03	15
18.202	18.2020	Fe XVIII	$2s\ 2p^6\ {}^2S_{1/2}$ - $2p^4\ ({}^3P)\ 3p\ {}^4D_{3/2}$	1.6e+04	15
	18.2020	Fe XVIII	$2s\ 2p^6\ {}^2S_{1/2}$ - $2p^4\ ({}^3P)\ 3p\ {}^2P_{3/2}$	1.3e+04	
18.360					1
18.401					15
18.499	18.4970	Cr XV	$2p^6\ {}^1S_0$ - $2p^5\ ({}^2P_{1/2})\ 3d\ {}^1P_1$	...	1,15,18
18.565					15
18.627	18.6270	O VII	$1s^2\ {}^1S_0$ - $1s\ 3p\ {}^1P_1$	1.4e+04	1,14,15,17,18
18.689	18.6909	Ca XVIII	$1s^2\ 2s\ {}^2S_{1/2}$ - $1s^2\ 3p\ {}^2P_{3/2}$	2.0e+04	15

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
18.733	18.7319	Ca XVIII	$1s^2\ 2s\ ^2S_{1/2}$ - $1s^2\ 3p\ ^2P_{1/2}$	1.0e+04	15
18.783	18.7860	Ar XVI	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 4s\ ^2S_{1/2}$	4.4e+03	15
18.928	18.9320	O VII d	$1s\ 3d\ ^1D_2$ - $2p\ 3d\ ^1F_3$	2.4e+03	
18.970	18.9671	O VIII	$1s\ ^2S_{1/2}$ - $2p\ ^2P_{3/2}$	1.4e+06	1,14,15,17,18
	18.9725	O VIII	$1s\ ^2S_{1/2}$ - $2p\ ^2P_{1/2}$	7.2e+05	
19.059	19.0610	O VII d	$1s\ 3d\ ^3D_3$ - $2p\ 3d\ ^3F_4$	2.3e+03	17,18
	19.0640	O VII d	$1s\ 3d\ ^3D_2$ - $2p\ 3d\ ^3F_3$	1.5e+03	
	19.0660	O VII d	$1s\ 3d\ ^3D_1$ - $2p\ 3d\ ^3F_2$	1.1e+03	
19.260	19.2550	Cr XVI	$2p^5\ ^2P_{3/2}$ - $2p^4\ (^1D)\ 3s\ ^2D_{5/2}$	...	1,15
19.300	19.3060	O VII d	$1s\ 2s\ ^3S_1$ - $2s\ 2p\ ^3P_2$	1.9e+03	15
	19.3100	O VII d	$1s\ 2s\ ^3S_1$ - $2s\ 2p\ ^3P_1$	1.1e+03	
19.354	19.3612	N VII	$1s\ ^2S_{1/2}$ - $5p\ ^2P_{3/2}$	2.3e+03	17,18
	19.3614	N VII	$1s\ ^2S_{1/2}$ - $5p\ ^2P_{1/2}$	1.1e+03	
19.403	19.3930	O VII d	$1s\ 2p\ ^1P_1$ - $2p^2\ ^1D_2$	4.3e+03	17,18
19.511	19.5110	Cr XVI	$2p^5\ ^2P_{3/2}$ - $2p^4\ (^1D)\ 3s\ ^2D_{3/2}$	...	15
19.532	19.5380	Cr XVI	$2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 3s\ ^2P_{3/2}$	...	15
19.564	19.5580	Ca XVII	$2s^2\ ^1S_0$ - $2s\ 3p\ ^1P_1$	2.3e+03	15
19.583	19.5825	Ca XVII	$2s^2\ ^1S_0$ - $2s\ 3p\ ^3P_1$	1.8e+03	17,18
19.640	19.6420	Ca XVIII	$1s^2\ 2p\ ^2P_{1/2}$ - $1s^2\ 3d\ ^2D_{3/2}$	1.4e+04	15
19.715	19.7140	Cr XVI	$2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 3s\ ^2P_{1/2}$	...	15
19.788	19.7892	Ca XVIII	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 3d\ ^2D_{5/2}$	2.5e+04	15
19.808	19.8009	Ca XVIII	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 3d\ ^2D_{3/2}$	2.7e+03	15
	19.8070	Cr XVI	$2p^5\ ^2P_{3/2}$ - $2p^4\ (^3P)\ 3s\ ^4P_{5/2}$	...	
...	19.8257	N VII	$1s\ ^2S_{1/2}$ - $4p\ ^2P_{3/2}$	5.0e+03	
...	19.8261	N VII	$1s\ ^2S_{1/2}$ - $4p\ ^2P_{1/2}$	2.5e+03	
19.916					15
...	20.0530	Ca XVIII	$1s^2\ 2p\ ^2P_{1/2}$ - $1s^2\ 3s\ ^2S_{1/2}$	6.2e+03	
20.126	20.1219	Ar XVIII	$2p\ ^2P_{1/2}$ - $3s\ ^2S_{1/2}$	3.3e+02	15
...	20.2190	Ca XVIII	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 3s\ ^2S_{1/2}$	1.3e+04	
20.288	20.2804	Ar XVIII	$2p\ ^2P_{3/2}$ - $3s\ ^2S_{1/2}$	6.4e+02	15
20.318	20.3400	Ca XVII	$2s\ 2p\ ^3P_1\ 2s\ 3d\ ^3D_2$	2.7e+02	15,18
20.434	20.4370	Ca XVII	$2s\ 2p\ ^3P_2$ - $2s\ 3d\ ^3D_3$	5.0e+02	15
20.862	20.8610	K XVII	$1s^2\ 2s\ ^2S_{1/2}$ - $1s^2\ 3p\ ^2P_{3/2}$	4.9e+02	1,15,18
	20.8630	Cr XV	$2p^6\ ^1S_0$ - $2p^5\ (^2P_{1/2})\ 3s\ ^1P_1$	...	
20.906	20.9095	N VII	$1s\ ^2S_{1/2}$ - $3p\ ^2P_{3/2}$	1.4e+04	1,15
	20.9106	N VII	$1s\ ^2S_{1/2}$ - $3p\ ^2P_{1/2}$	7.3e+03	
21.153	21.1530	Cr XV	$2p^6\ ^1S_0$ - $2p^5\ (^2P_{3/2})\ 3s\ ^3P_1$	...	1,15
21.202	21.1980	Ca XVII	$2s\ 2p\ ^1P_1$ - $2s\ 3d\ ^1D_2$	5.9e+03	1,15
...	21.3830	Fe XXIV	$1s^2\ 3s\ ^2S_{1/2}$ - $1s^2\ 5p\ ^2P_{3/2}$	3.2e+03	
...	21.3830	Fe XXIV	$1s^2\ 3s\ ^2S_{1/2}$ - $1s^2\ 5p\ ^2P_{1/2}$	1.7e+03	

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
21.447	21.4500	Ca XVI	2p ^{2}P$_{1/2}$ - 2s^2 3d ^{2}D$_{3/2}$	2.9e+03	1,15
21.603	21.6020	O VII	1s^2 ^{1}S$_0$ - 1s 2p ^{1}P$_1$	9.1e+04	1,14,15,18
21.802	21.8070	O VII	1s^2 ^{1}S$_0$ - 1s 2p ^{3}P$_1$	5.8e+03	1,14,15
21.850	21.8200	Fe XXIV	1s^2 3p ^{2}P$_{1/2}$ - 1s^2 5d ^{2}D$_{3/2}$	1.7e+03	18
22.025	22.0200	K XVII	1s^2 2p ^{2}P$_{1/2}$ - 1s^2 3d ^{2}D$_{3/2}$	3.5e+02	15
	22.0595	Si XIV	2s ^{2}S$_{1/2}$ - 5p ^{2}P$_{3/2}$	4.8e+02	
22.100	22.1012	O VII	1s^2 ^{1}S$_0$ - 1s 2s ^{3}S$_1$	3.5e+04	1,15,18
...	22.1140	Ca XVII	2s 2p ^{1}P$_1$ - 2s 3s ^{1}S$_0$	3.7e+03	
...	22.1980	Fe XXIV	1s^2 3p ^{2}P$_{3/2}$ - 1s^2 5s ^{2}S$_{1/2}$	2.9e+03	
22.722	22.7250	Ca XV	2p^2 ^{3}P$_0$ - 2p 3d ^{3}D$_1$	2.3e+03	1,15
22.778	22.8210	Ca XV	2p^2 ^{3}P$_2$ - 2p 3d ^{3}D$_1$	5.5e+02	15
...	23.0050	S XIV	1s^2 2s ^{2}S$_{1/2}$ - 1s^2 4p ^{2}P$_{3/2}$	7.4e+03	
...	23.0150	S XIV	1s^2 2s ^{2}S$_{1/2}$ - 1s^2 4p ^{2}P$_{1/2}$	3.9e+03	
...	23.5460	Ar XVI	1s^2 2s ^{2}S$_{1/2}$ - 1s^2 3p ^{2}P$_{3/2}$	3.2e+04	
...	23.5900	Ar XVI	1s^2 2s ^{2}S$_{1/2}$ - 1s^2 3p ^{2}P$_{1/2}$	1.6e+04	
24.09	24.1100	Ca XIV	2p^3 ^{4}S$_{3/2}$ - 2p^2 (^{3}P) 3d ^{4}P$_{5/2}$	...	1
24.13					1
...	24.2000	S XIV	1s^2 2p ^{2}P$_{1/2}$ - 1s^2 4d ^{2}D$_{3/2}$	3.8e+03	
...	24.2850	S XIV	1s^2 2p ^{2}P$_{3/2}$ - 1s^2 4d ^{2}D$_{5/2}$	6.9e+03	
24.38					1
...	24.4180	S XIV	1s^2 2p ^{2}P$_{1/2}$ - 1s^2 4s ^{2}S$_{1/2}$	1.6e+03	
...	24.5080	S XIV	1s^2 2p ^{2}P$_{3/2}$ - 1s^2 4s ^{2}S$_{1/2}$	3.2e+03	
24.53	24.5199	Si XIII	1s 2s ^{3}S$_1$ - 1s 5p ^{3}P$_1$	3.2e+02	1
24.68	24.6955	Si XIV	2p ^{2}P$_{1/2}$ - 4d ^{2}D$_{3/2}$	5.2e+02	1
	24.6987	Si XIV	2s ^{2}S$_{1/2}$ - 4p ^{2}P$_{3/2}$	9.8e+02	
24.78	24.7792	N VII	1s ^{2}S$_{1/2}$ - 2p ^{2}P$_{3/2}$	9.0e+04	1
	24.7846	N VII	1s ^{2}S$_{1/2}$ - 2p ^{2}P$_{1/2}$	4.5e+04	
24.86	24.8540	Ar XVI	1s^2 2p ^{2}P$_{1/2}$ - 1s^2 3d ^{2}D$_{3/2}$	2.4e+04	1
...	24.9910	Ar XVI	1s^2 2p ^{2}P$_{3/2}$ - 1s^2 3d ^{2}D$_{5/2}$	4.2e+04	
...	25.0130	Ar XVI	1s^2 2p ^{2}P$_{3/2}$ - 1s^2 3d ^{2}D$_{3/2}$	4.6e+03	
...	25.5160	Ar XVI	1s^2 2p ^{2}P$_{1/2}$ - 1s^2 3s ^{2}S$_{1/2}$	9.9e+03	
...	25.6840	Ar XVI	1s^2 2p ^{2}P$_{3/2}$ - 1s^2 3s ^{2}S$_{1/2}$	2.0e+04	
26.03	26.0000	Ca XIII	2p^4 ^{3}P$_2$ - 2p^3 (^{2}D) 3d ^{3}P$_2$	...	1
	26.0330	Ca XIII	2p^4 ^{3}P$_2$ - 2p^3 (^{2}D) 3d ^{3}D$_3$	...	
26.22	26.2190	Ca XIII	2p^4 ^{3}P$_1$ - 2p^3 (^{2}D) 3d ^{3}D$_2$	...	1
26.36	26.3572	C VI	1s ^{2}S$_{1/2}$ - 5p ^{2}P$_{3/2}$	3.6e+03	1
	26.3574	C VI	1s ^{2}S$_{1/2}$ - 5p ^{2}P$_{1/2}$	1.8e+03	
26.59					1
26.64					1
26.71	26.7190	Ca XIII	2p^4 ^{3}P$_2$ - 2p^3 (^{4}S) 3d ^{3}D$_3$	...	1

CHIANTI XUV Line List (cont.)					
λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
27.01	26.9896	C VI	1s $^2S_{1/2}$ - 4p $^2P_{3/2}$	7.7e+03	1
	26.9901	C VI	1s $^2S_{1/2}$ - 4p $^2P_{1/2}$	3.8e+03	
27.15					1
...	27.4100	Ar XV	2s 2p $^1P_1$ - 2s 3d $^1D_2$	5.3e+03	
...	27.4700	Ar XIV	2p $^2P_{1/2}$ - 2s^2 3d $^2D_{3/2}$	2.7e+03	
...	27.5304	S XV	1s 2s $^3S_1$ - 1s 3p $^3P_2$	3.7e+03	
27.56	27.5598	S XV	1s 2s $^3S_1$ - 1s 3p $^3P_1$	1.4e+03	1
27.60	27.6080	Ca XII	2p^5 $^2P_{1/2}$ - 2p^4 (^{1}S) 3d $^2D_{3/2}$	...	1
27.65	27.6420	Ar XIV	2p $^2P_{3/2}$ - 2s^2 3d $^2D_{3/2}$	5.4e+02	1
27.98	27.9730	Ca XII	2p^5 $^2P_{3/2}$ - 2p^4 (^{1}S) 3d $^2D_{5/2}$	...	1
28.13	28.1310	Ca XII	2p^5 $^2P_{1/2}$ - 2p^4 (^{1}D) 3d $^2D_{3/2}$	...	1
28.40	28.3860	Ar XV	2s 2p $^1P_1$ - 2s 3s $^1S_0$	3.4e+03	1
28.46	28.4652	C VI	1s $^2S_{1/2}$ - 3p $^2P_{3/2}$	2.2e+04	1
	28.4663	C VI	1s $^2S_{1/2}$ - 3p $^2P_{1/2}$	1.1e+04	
28.56					1
28.78	28.7870	N VI	1s^2 $^1S_0$ - 1s 2p $^1P_1$	3.7e+03	1
28.91	28.9084	Si XIII	1s 2p $^1P_1$ - 1s 4d $^1D_2$	3.5e+02	1
	28.9382	S XV	1s 2p $^3P_1$ - 1s 3s $^3S_1$	3.6e+02	
29.07	29.0840	N VI	1s^2 $^1S_0$ - 1s 2p $^3P_1$	2.6e+02	1
29.53	29.5343	N VI	1s^2 $^1S_0$ - 1s 2s $^3S_1$	1.7e+03	1
	29.5438	S XV	1s 2p $^1P_1$ - 1s 3s $^1S_0$	2.3e+03	
29.65	29.5740	Si XII	1s^2 2p $^2P_{1/2}$ - 1s^2 5s $^2S_{1/2}$	7.4e+02	
	29.6450	Si XII	1s^2 2p $^2P_{3/2}$ - 1s^2 5s $^2S_{1/2}$	4.4e+02	1
29.99					1
30.09					1
30.45	30.4270	S XIV	1s^2 2s $^2S_{1/2}$ - 1s^2 3p $^2P_{3/2}$	4.2e+04	1
	30.4690	S XIV	1s^2 2s $^2S_{1/2}$ - 1s^2 3p $^2P_{1/2}$	2.2e+04	
30.56					1
...	30.7260	Fe XXIV	1s^2 3s $^2S_{1/2}$ - 1s^2 4p $^2P_{3/2}$	7.4e+03	
...	30.8780	Fe XXIV	1s^2 3s $^2S_{1/2}$ - 1s^2 4p $^2P_{1/2}$	4.0e+03	
31.01	31.0120	Si XII	1s^2 2s $^2S_{1/2}$ - 1s^2 4p $^2P_{3/2}$	5.2e+03	1
	31.0230	Si XII	1s^2 2s $^2S_{1/2}$ - 1s^2 4p $^2P_{1/2}$	2.7e+03	
...	31.6160	Fe XXIV	1s^2 3p $^2P_{1/2}$ - 1s^2 4d $^2D_{3/2}$	4.4e+03	
31.74	31.7460	Fe XXIII	2s 3s $^3S_1$ - 2s 4p $^1P_1$	6.9e+02	1
31.77					1
31.83					1
31.94	31.9590	Fe XXIV	1s^2 3p $^2P_{3/2}$ - 1s^2 4d $^2D_{5/2}$	7.9e+03	1
32.01	32.0100	Fe XXIV	1s^2 3p $^2P_{3/2}$ - 1s^2 4d $^2D_{3/2}$	8.7e+02	1
32.19	32.1910	S XIII	2s^2 $^1S_0$ - 2s 3p $^3P_1$	1.0e+03	1
32.24	32.2420	S XIII	2s^2 $^1S_0$ - 2s 3p $^1P_1$	1.9e+03	1

CHIANTI XUV Line List (cont.)					
λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
32.29					1
32.41	32.4040	Fe XXIV	$1s^2\ 3p\ ^2P_{1/2}$ - $1s^2\ 4s\ ^2S_{1/2}$	3.8e+03	1
	32.4160	S XIV	$1s^2\ 2p\ ^2P_{1/2}$ - $1s^2\ 3d\ ^2D_{3/2}$	2.8e+04	
32.50	32.4890	Fe XXIII	$2s\ 3s\ ^1S_0$ - $2s\ 4p\ ^1P_1$	4.5e+03	1
32.55	32.5600	S XIV	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 3d\ ^2D_{5/2}$	4.9e+04	1
...	32.5750	S XIV	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 3d\ ^2D_{3/2}$	5.5e+03	
32.66	32.6520	Fe XVI	$3p\ ^2P_{3/2}$ - $7d\ ^2D_{5/2}$	···	1
...	32.8190	Fe XXIV	$1s^2\ 3p\ ^2P_{3/2}$ - $1s^2\ 4s\ ^2S_{1/2}$	8.1e+03	
32.97	32.9730	Si XII	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 4d\ ^2D_{5/2}$	4.9e+03	1
33.22	33.2220	Si XII	$1s^2\ 2p\ ^2P_{1/2}$ - $1s^2\ 4s\ ^2S_{1/2}$	1.1e+03	1
33.30	33.3023	Si XIV	$2p\ ^2P_{1/2}$ - $3d\ ^2D_{3/2}$	1.4e+03	1
	33.3081	Si XIV	$2s\ ^2S_{1/2}$ - $3p\ ^2P_{3/2}$	2.2e+03	
	33.3130	Si XII	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 4s\ ^2S_{1/2}$	2.2e+03	
33.38	33.3810	S XIV	$1s^2\ 2p\ ^2P_{1/2}$ - $1s^2\ 3s\ ^2S_{1/2}$	1.2e+04	1
...	33.4340	Fe XXIII	$2s\ 3p\ ^1P_1$ - $2s\ 4d\ ^1D_2$	9.1e+03	
33.50	33.5069	Si XIV	$2p\ ^2P_{3/2}$ - $3s\ ^2S_{1/2}$	3.5e+03	1
33.54	33.5490	S XIV	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 3s\ ^2S_{1/2}$	2.5e+04	1
33.73	33.7342	C VI	$1s\ ^2S_{1/2}$ - $2p\ ^2P_{3/2}$	1.4e+05	1
	33.7396	C VI	$1s\ ^2S_{1/2}$ - $2p\ ^2P_{1/2}$	6.8e+04	
33.96	33.9510	S XIII	$2s\ 2p\ ^3P_2$ - $2s\ 3d\ ^3D_3$	4.0e+02	1
34.86	34.8570	Fe XVI	$3p\ ^2P_{1/2}$ - $6d\ ^2D_{3/2}$	···	1
34.99	34.9730	C V	$1s^2\ ^1S_0$ - $1s\ 3p\ ^1P_1$	4.9e+02	1
35.10	35.0950	P XIII	$1s^2\ 2s\ ^2S_{1/2}$ - $1s^2\ 3p\ ^2P_{3/2}$	3.9e+02	1
	35.1060	Fe XVI	$3p\ ^2P_{3/2}$ - $6d\ ^2D_{5/2}$	···	
35.21					1
35.36	35.3680	Fe XVI	$3d\ ^2D_{5/2}$ - $8f\ ^2F_{7/2}$	···	1
	35.3530	Si XI	$2s\ 2p\ ^3P_0$ - $2s\ 4d\ ^3D_1$	···	
	35.3830	Si XI	$2s\ 2p\ ^3P_1$ - $2s\ 4d\ ^3D_2$	···	
35.46	35.4460	Si XI	$2s\ 2p\ ^3P_2$ - $2s\ 4d\ ^3D_3$	···	1
35.57					1
35.67	35.6670	S XIII	$2s\ 2p\ ^1P_1$ - $2s\ 3d\ ^1D_2$	4.1e+03	1
35.73	35.7100	Fe XVI	$3p\ ^2P_{1/2}$ - $6s\ ^2S_{1/2}$	···	1
35.80					1
36.01	36.0100	Fe XVI	$3p\ ^2P_{3/2}$ - $6s\ ^2S_{1/2}$	···	1
36.12					1
36.40	36.3980	S XII	$2s^2\ 2p\ ^2P_{1/2}$ - $2s^2\ 3d\ ^2D_{3/2}$	1.5e+03	1
...	36.4333	Si XIII	$1s\ 2s\ ^3S_1$ - $1s\ 3p\ ^3P_2$	5.1e+03	
36.52					1
36.56	36.5640	S XII	$2s^2\ 2p\ ^2P_{3/2}$ - $2s^2\ 3d\ ^2D_{5/2}$	7.0e+02	1
	36.5730	S XII	$2s^2\ 2p\ ^2P_{3/2}$ - $2s^2\ 3d\ ^2D_{3/2}$	3.0e+02	

CHIANTI XUV Line List (cont.)

λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
36.75	36.7490	Fe XVI	3s $^2S_{1/2}$ - 5p $^2P_{3/2}$	2.9e+03	1
36.80	36.8030	Fe XVI	3s $^2S_{1/2}$ - 5p $^2P_{1/2}$	1.6e+03	1
36.89					1
37.35					1
37.42					1
37.60	37.5980	S XIII	2s 2p $^1P_1$ - 2s 3s $^1S_0$	2.6e+03	1
37.71	37.7060	P XIII	1s^2 2p $^2P_{3/2}$ - 1s^2 3d $^2D_{5/2}$	5.1e+02	1
	37.7150	S XII	2s 2p^2 $^2D_{3/2}$ - 2s 2p (^{3}P*) 3d $^2F_{5/2}$	3.7e+02	
...	39.4147	Si XIII	1s 2p $^1P_1$ - 1s 3s $^1S_0$	3.1e+03	
39.66	39.6680	Mg X	1s^2 2s $^2S_{1/2}$ - 1s^2 5p $^2P_{3/2}$	2.9e+02	1
39.75					1
39.83	39.8270	Fe XVI	3p $^2P_{1/2}$ - 5d $^2D_{3/2}$	2.7e+03	1
39.89					1
39.94					1
40.14	40.1530	Fe XVI	3p $^2P_{3/2}$ - 5d $^2D_{5/2}$	4.8e+03	1
40.19	40.1990	Fe XVI	3d $^2D_{3/2}$ - 6f $^2F_{5/2}$	...	1
40.27	40.2680	C V	1s^2 $^1S_0$ - 1s 2p $^1P_1$	3.2e+03	1
40.72	40.7307	C V	1s^2 $^1S_0$ - 1s 2p $^3P_1$	2.4e+02	1
40.86					1
40.91	40.9110	Si XII	1s^2 2s $^2S_{1/2}$ - 1s^2 3p $^2P_{3/2}$	3.0e+04	1
40.95	40.9510	Si XII	1s^2 2s $^2S_{1/2}$ - 1s^2 3p $^2P_{1/2}$	1.5e+04	1,7
41.01					1
41.13					7
41.22					1
41.47	41.4721	C V	1s^2 $^1S_0$ - 1s 2s $^3S_1$	1.9e+03	1,7
41.94	41.9320	Fe XVI	3p $^2P_{1/2}$ - 5s $^2S_{1/2}$	3.0e+03	1,7
42.27	42.3040	Fe XVI	3p $^2P_{3/2}$ - 5s $^2S_{1/2}$	6.2e+03	1
42.55	42.5430	S X	2p^3 $^4S_{3/2}$ - 2p^2 (^{3}P) 3d $^4P_{5/2}$	...	1,7
42.61					1
43.31	43.3149	Ne X	2s $^2S_{1/2}$ - 5p $^2P_{3/2}$	4.6e+02	1,7
43.65					1
43.76	43.7630	Si XI	2s^2 $^1S_0$ - 2s 3p $^1P_1$	1.0e+03	1,7
43.80					1
44.02	44.0190	Si XII	1s^2 2p $^2P_{1/2}$ - 1s^2 3d $^2D_{3/2}$	1.9e+04	1
44.17	44.1650	Si XII	1s^2 2p $^2P_{3/2}$ - 1s^2 3d $^2D_{5/2}$	3.4e+04	1,7
	44.1780	Si XII	1s^2 2p $^2P_{3/2}$ - 1s^2 3d $^2D_{3/2}$	3.8e+03	
44.20	44.1780	Si XII	1s^2 2p $^2P_{3/2}$ - 1s^2 3d $^2D_{3/2}$	3.8e+03	1
44.36					1
44.55					7
44.86					7

CHIANTI XUV Line List (cont.)					
λ_{solar} (Å)	λ (Å)	Ion	Transition	Int	Refs
45.06					1,7
45.51	45.5210	Si XII	$1s^2\ 2p\ ^2P_{1/2}$ - $1s^2\ 3s\ ^2S_{1/2}$	8.4e+03	1,7
45.68	45.6910	Si XII	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 3s\ ^2S_{1/2}$	1.7e+04	1,7
45.73					1
45.76					1
46.00					7
46.18					1
46.33	46.2980	Si XI	$2s\ 2p\ ^3P_1$ - $2s\ 3d\ ^3D_2$	1.3e+02	1,7
	46.3140	Al XII	$1s\ 2p\ ^1P_1$ - $1s\ 3s\ ^1S_0$	1.5e+02	
46.40	46.3990	Si XI	$2s\ 2p\ ^3P_2$ - $2s\ 3d\ ^3D_3$	3.6e+02	1
46.66	46.6610	Fe XVI	$3d\ ^2D_{3/2}$ - $5f\ ^2F_{5/2}$	2.6e+03	1
46.72	46.7180	Fe XVI	$3d\ ^2D_{5/2}$ - $5f\ ^2F_{7/2}$	3.6e+03	1,7
47.33	47.3100	Mg X	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 4d\ ^2D_{5/2}$	7.7e+02	1,7
47.60					7
47.67	47.6630	Ni XVII	$3s\ 3p\ ^1P_1$ - $3s\ 4d\ ^1D_2$	···	1
47.79	47.7720	Ni XVI	$3s^2\ 3p\ ^2P_{3/2}$ - $3s^2\ 4d\ ^2D_{5/2}$	···	1
47.85	47.8790	Mg X	$1s^2\ 2p\ ^2P_{3/2}$ - $1s^2\ 4s\ ^2S_{1/2}$	3.4e+02	7
48.25					1
48.29	48.2970	Al XI	$1s^2\ 2s\ ^2S_{1/2}$ - $1s^2\ 3p\ ^2P_{3/2}$	9.5e+02	1
48.33	48.3380	Al XI	$1s^2\ 2s\ ^2S_{1/2}$ - $1s^2\ 3p\ ^2P_{1/2}$	4.8e+02	1
48.51	48.5010	Ne X	$2p\ ^2P_{1/2}$ - $4d\ ^2D_{3/2}$	5.0e+02	7
	48.5048	Ne X	$2s\ ^2S_{1/2}$ - $4p\ ^2P_{3/2}$	9.4e+02	
	48.5113	Ne X	$2p\ ^2P_{1/2}$ - $4s\ ^2S_{1/2}$	4.2e+02	
	48.5156	Ne X	$2s\ ^2S_{1/2}$ - $4p\ ^2P_{1/2}$	4.7e+02	
48.97	48.9530	Fe XVI	$3d\ ^2D_{5/2}$ - $5p\ ^2P_{3/2}$	5.1e+02	1
	48.9790	Fe XVI	$3d\ ^2D_{3/2}$ - $5p\ ^2P_{1/2}$	3.0e+02	
49.18					1
49.22	49.2220	Si XI	$2s\ 2p\ ^1P_1$ - $2s\ 3d\ ^1D_2$	1.9e+03	1,7
49.31					1
49.49					1
49.64					1
49.71					1
49.76					1
49.81					1
49.88					1