

UV Morphology of (Intermediate and late-type) Stars and (old) Stellar Populations: The UV Spectroscopic Indices

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Colleagues Trieste, Beijing, Athens

(Chavez et al. 2007, ApJ)

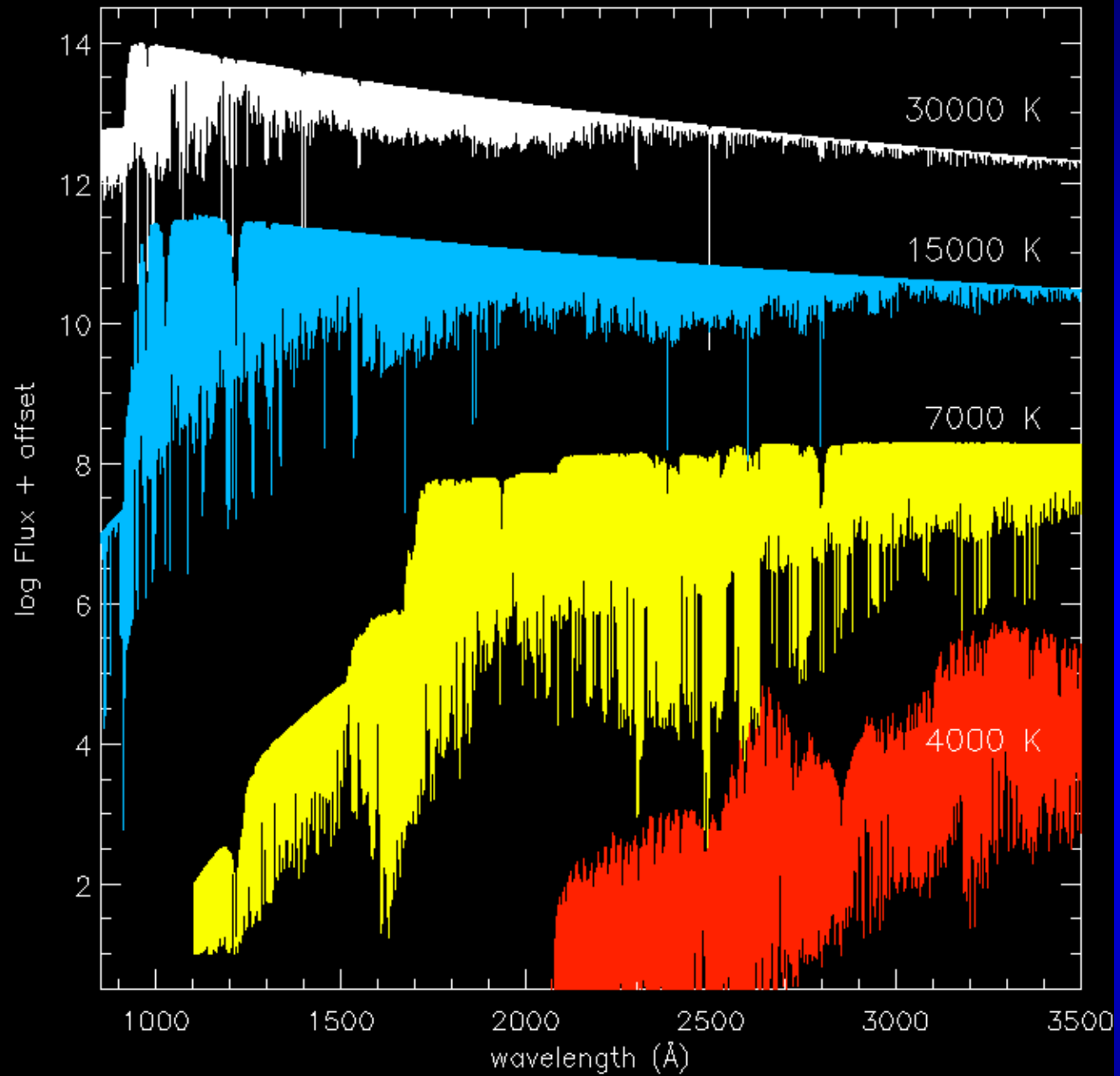
The synthetic high-resolution library

	UV- Blue	BLUERED
λ interval	850 \rightarrow 4750 Å	3500 \rightarrow 7000 Å
R =	50 000	500 000
Step	0.017 \rightarrow 0.095 Å	0.007 \rightarrow 0.014 Å
T_{eff}	3000 \rightarrow 50 000 K	4000 \rightarrow 50 000 K
log g	0.0 \rightarrow 5.0 dex	0.0 \rightarrow 5.0 dex
[M/H]	-2.0 \rightarrow +0.5	-3.0 \rightarrow +0.3
No. spectra	1690	832

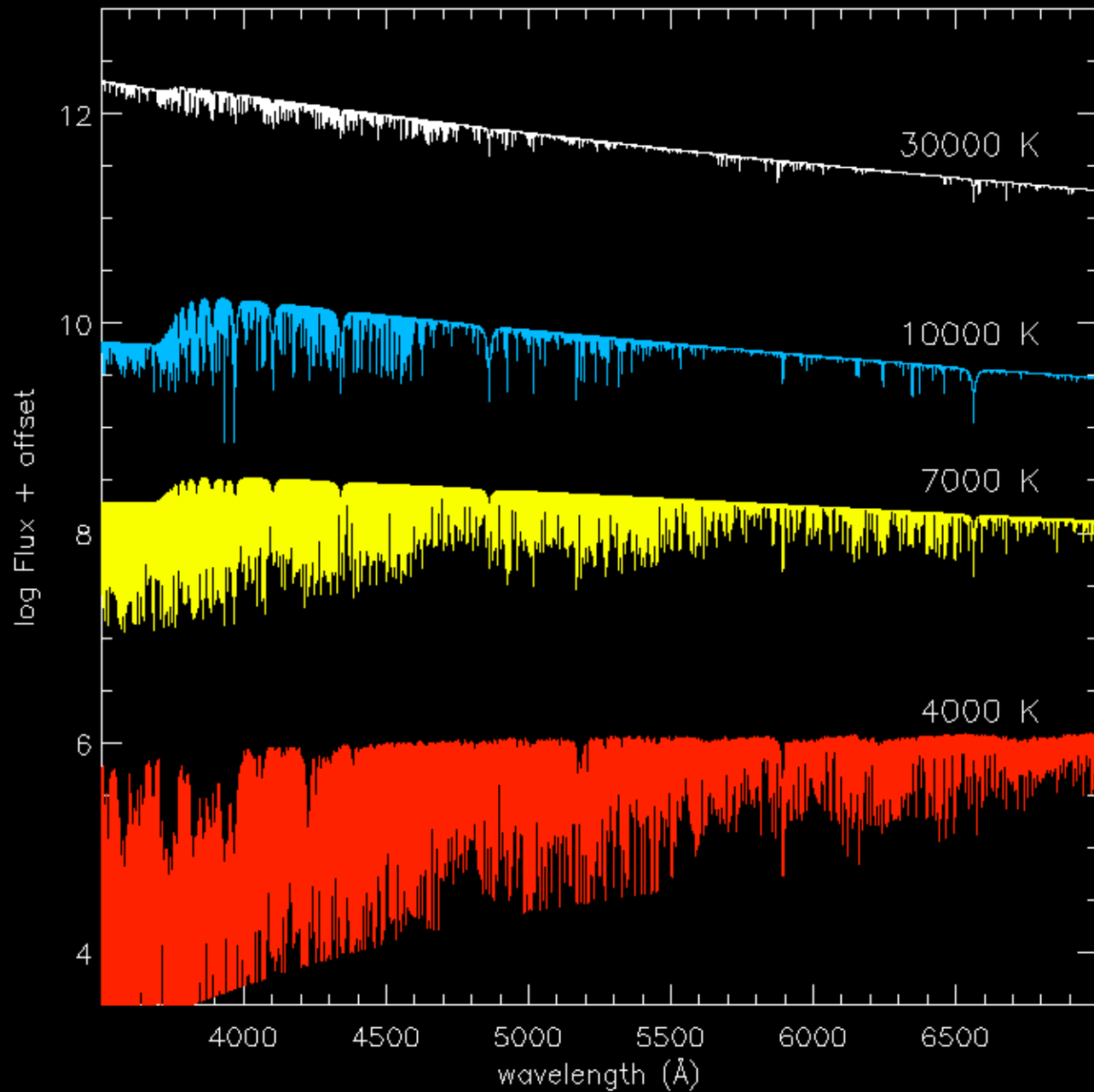
Rodríguez-Merino et al. 2005

Bertone et al. 2003
Bertone et al. 2007a

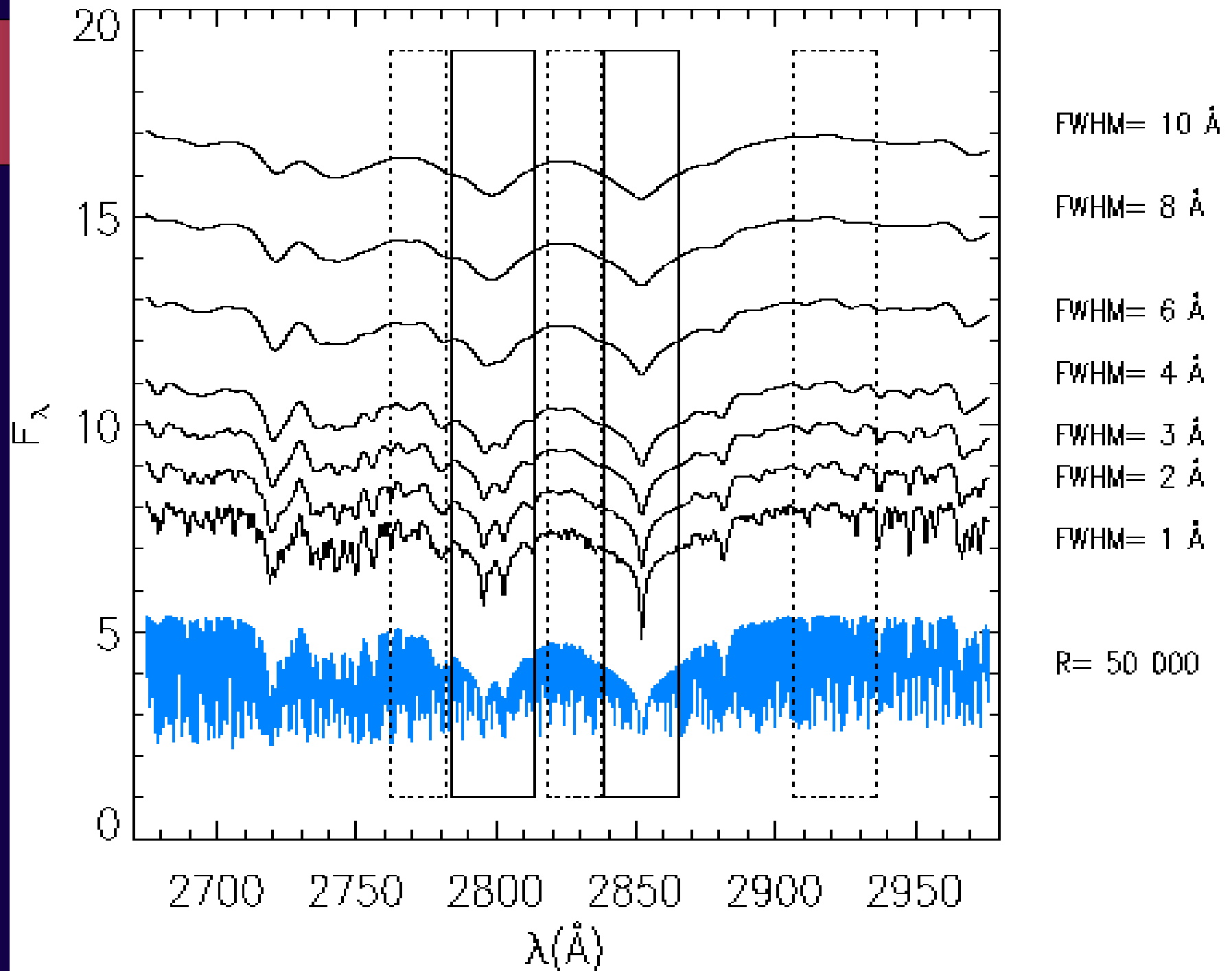
UV-Blue library

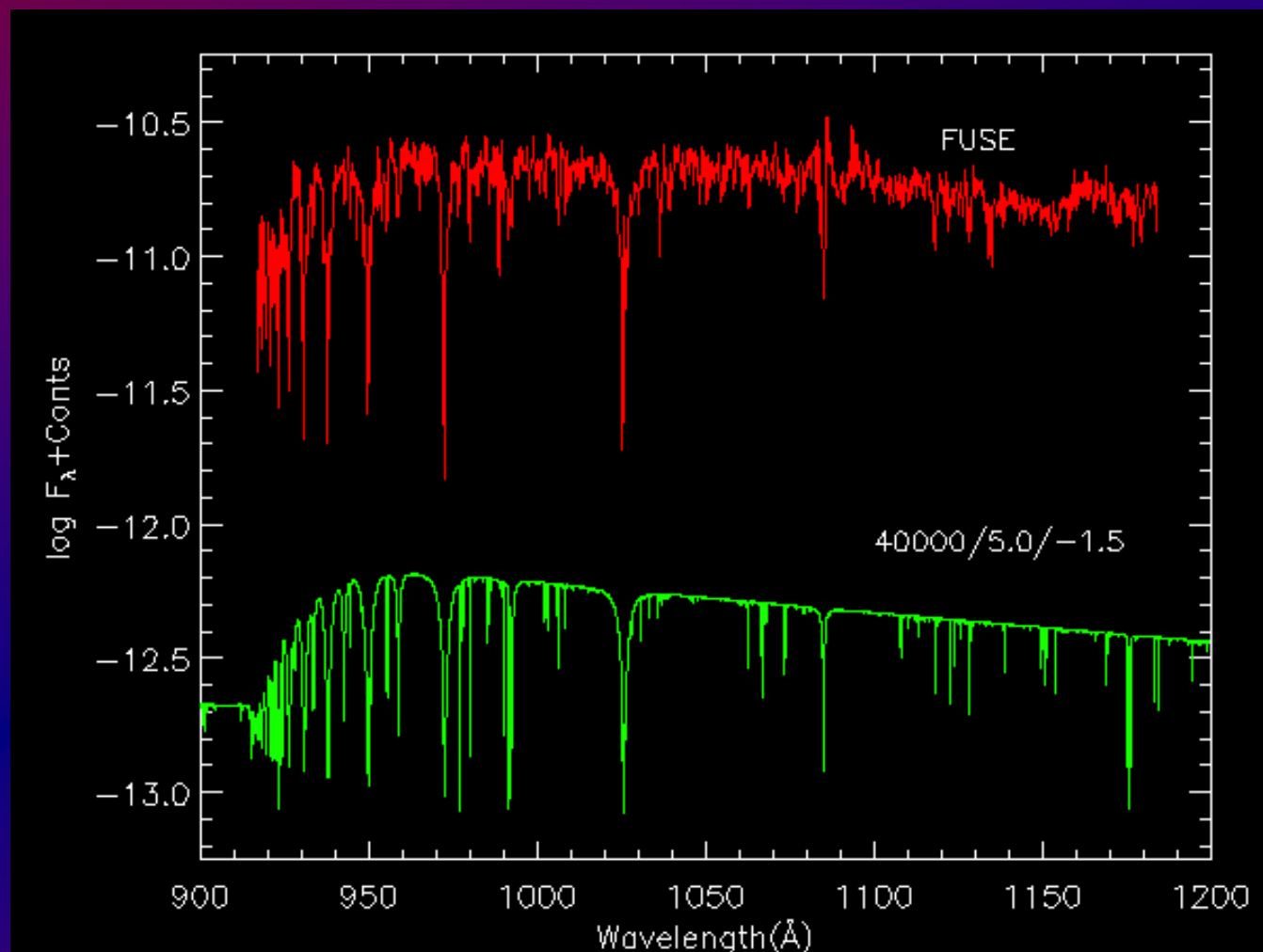


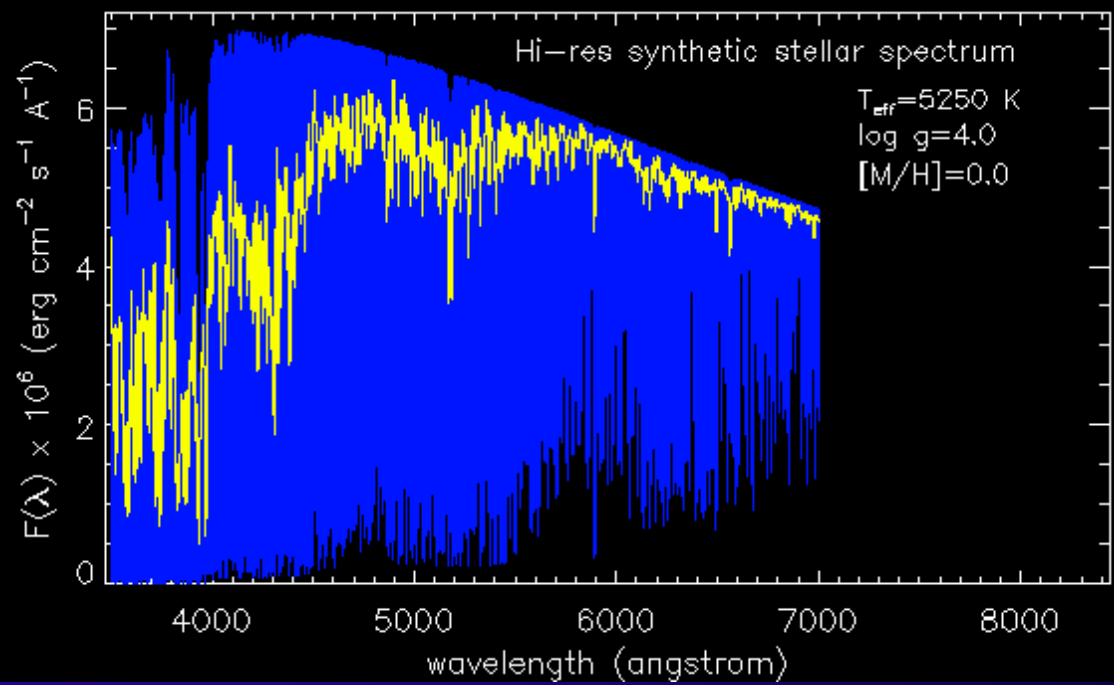
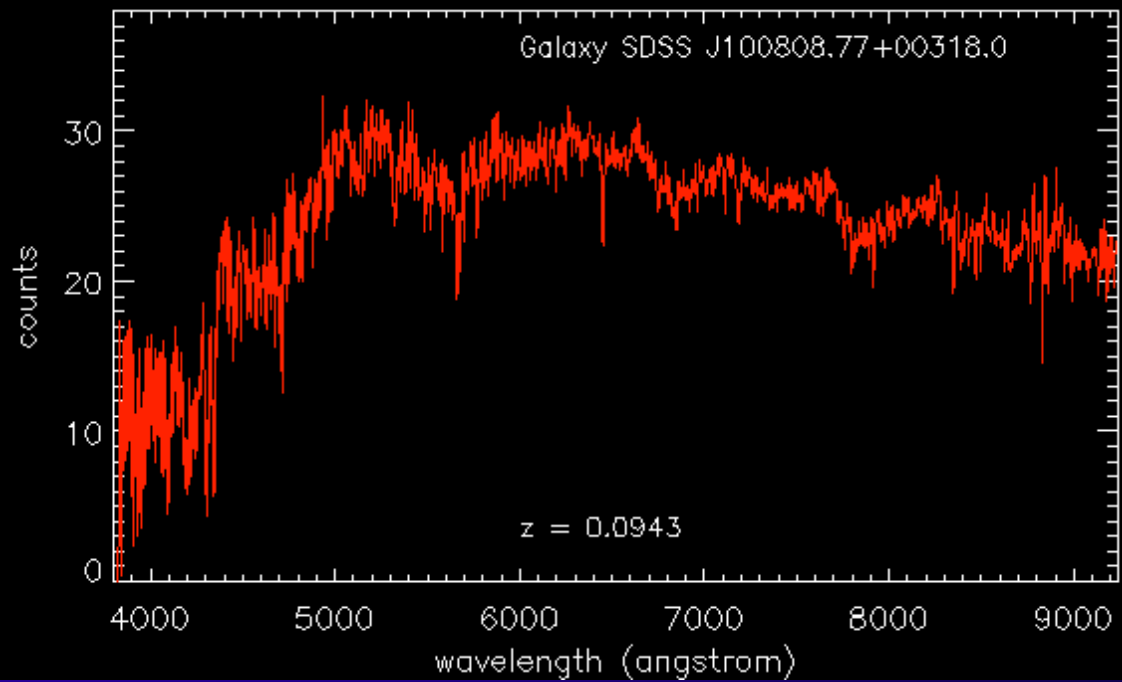
Optical library

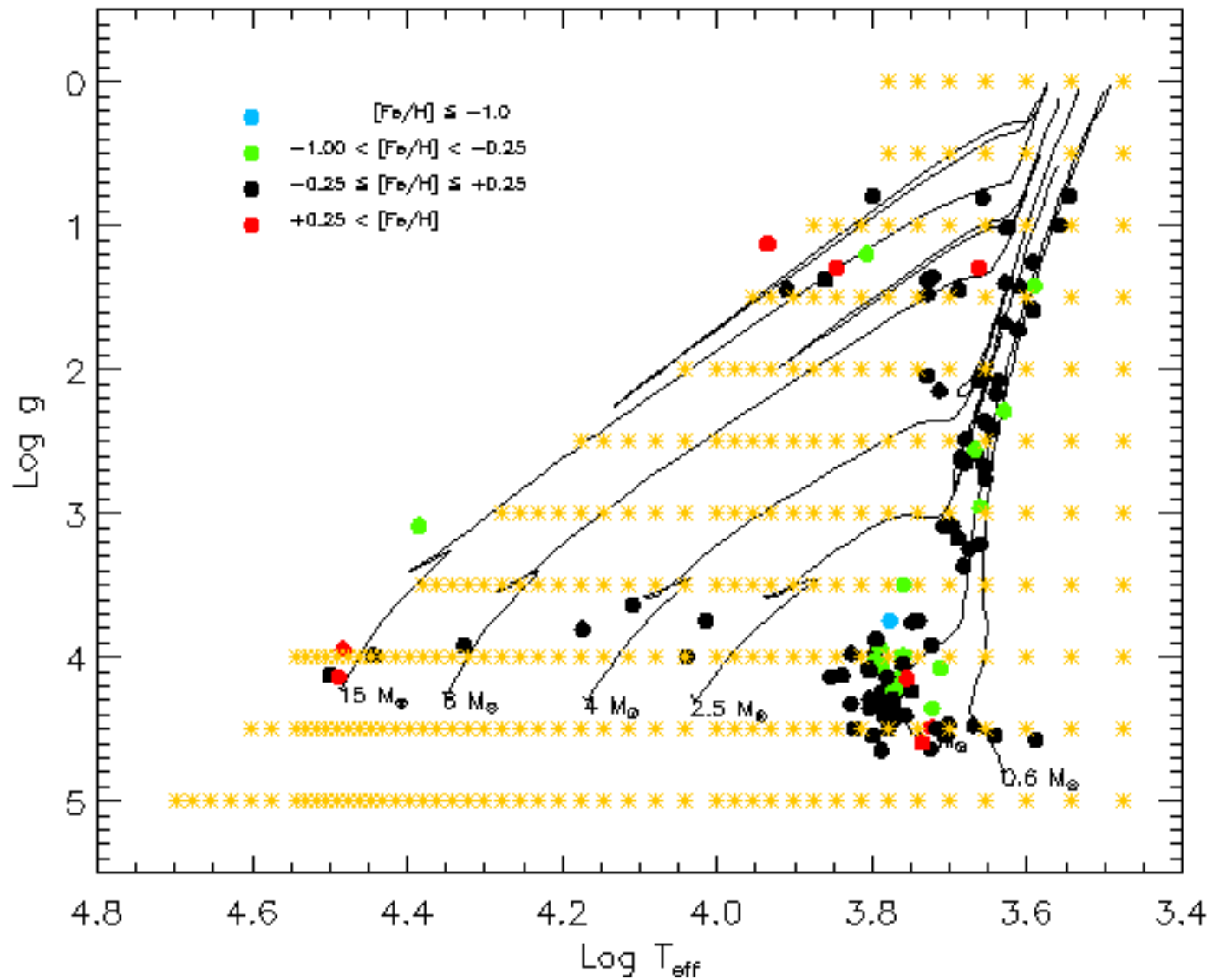


5000/4.0/+0.0



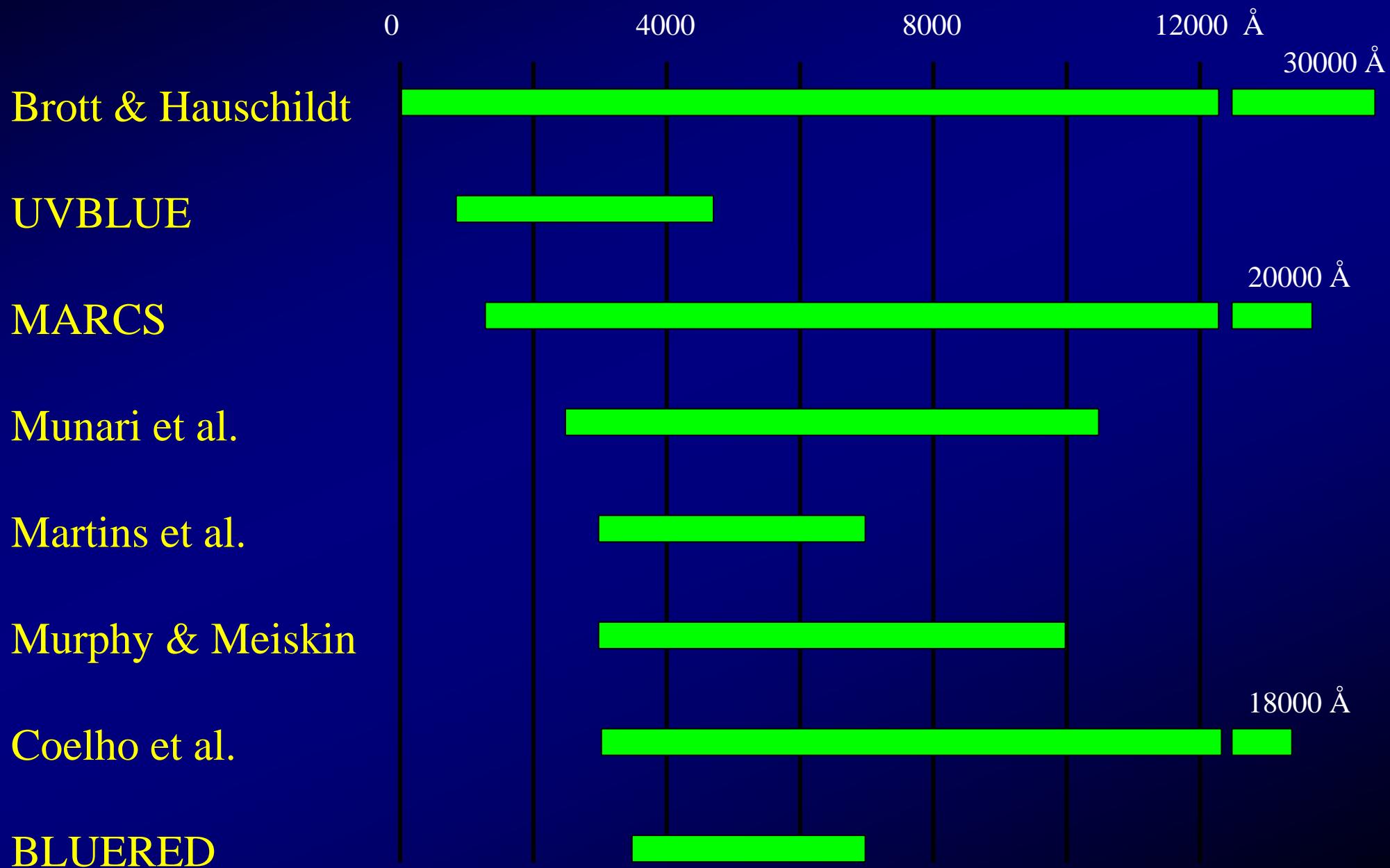






The *IUE* Ultraviolet Spectral Atlas, Wu (1980); Wu et al. (1981)

Libraries of high-resolution synthetic stellar spectra

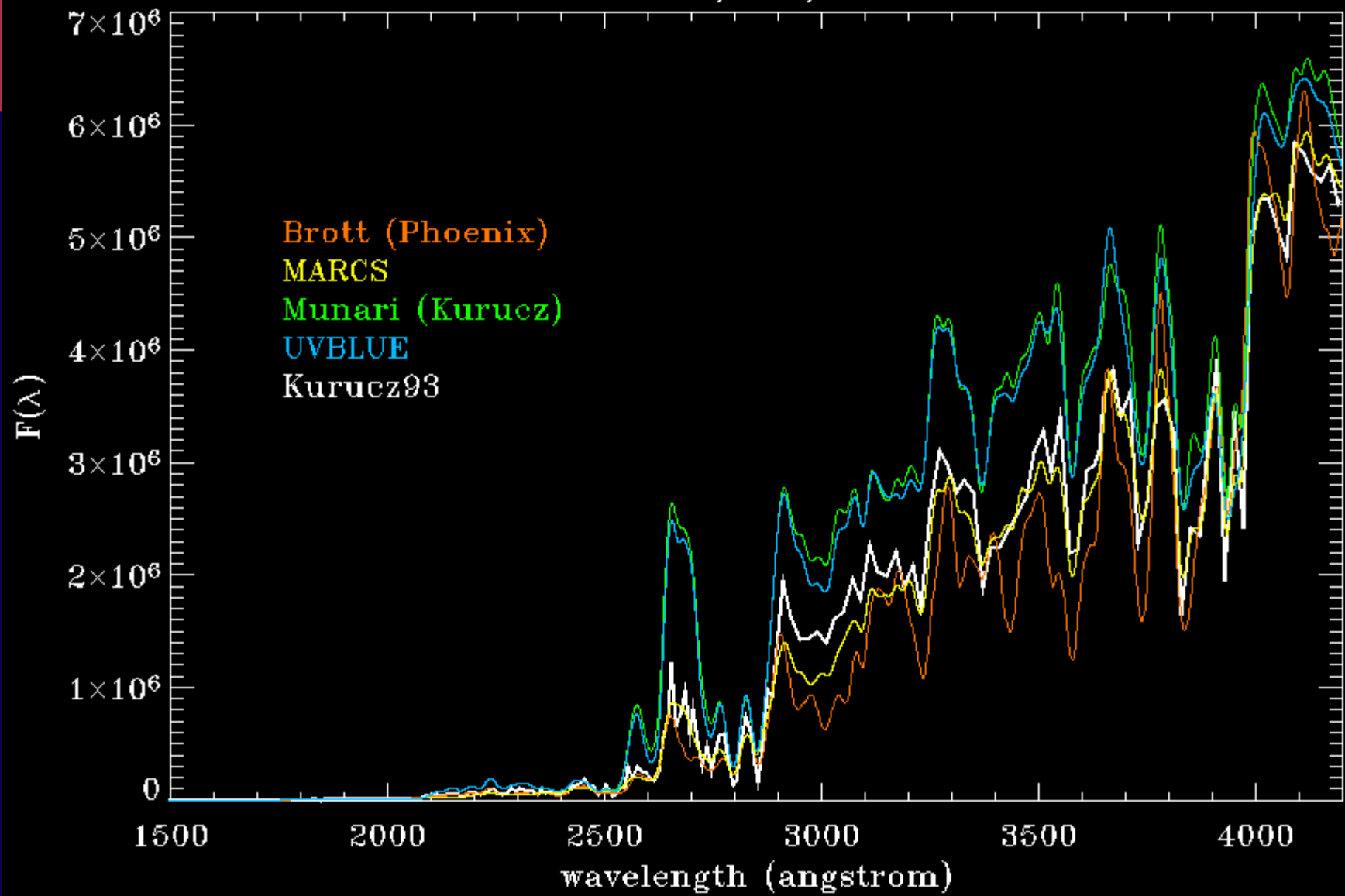


Caveats

OJO:

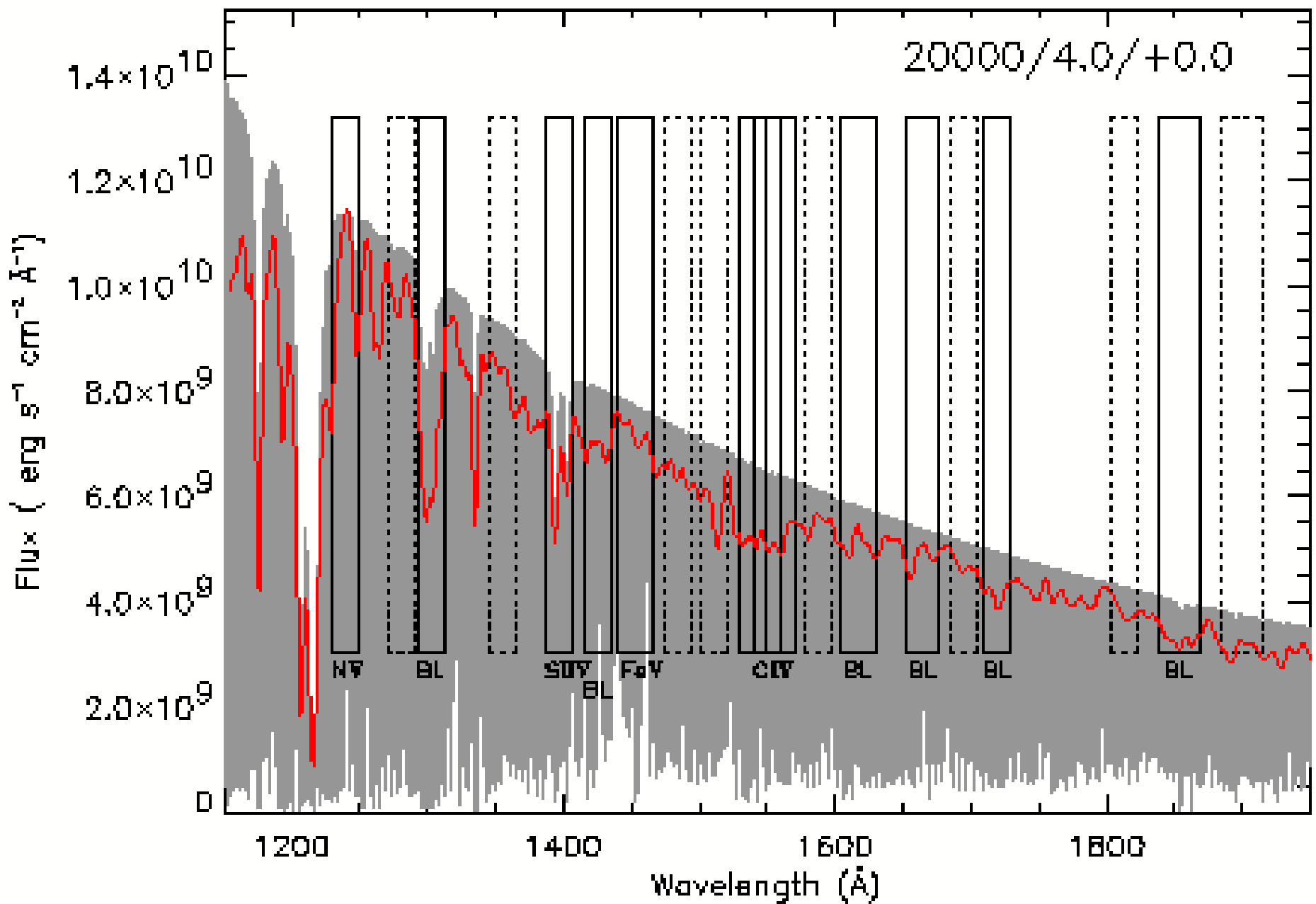
- No rotation (affects mainly early-type stars)
- ξ (up to 10 km/s)
- No chromospheres
- static atmosphere
- LTE
- plane parallel
- solar scaled abundances
- incomplete opacities

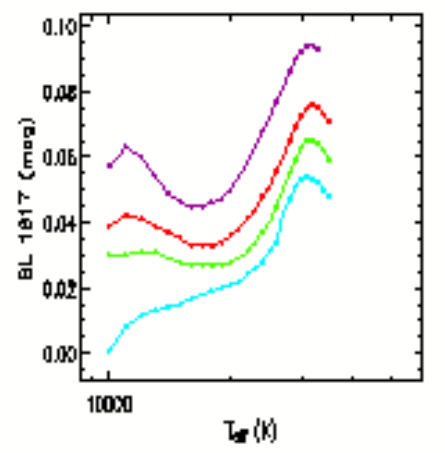
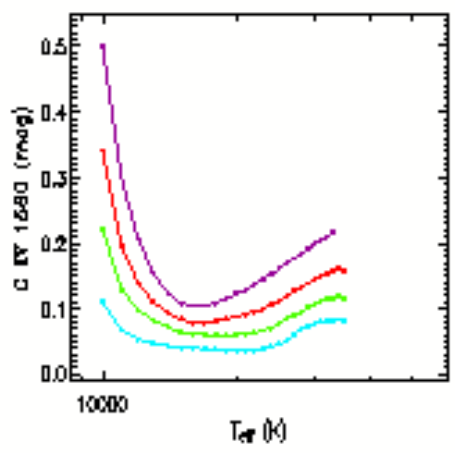
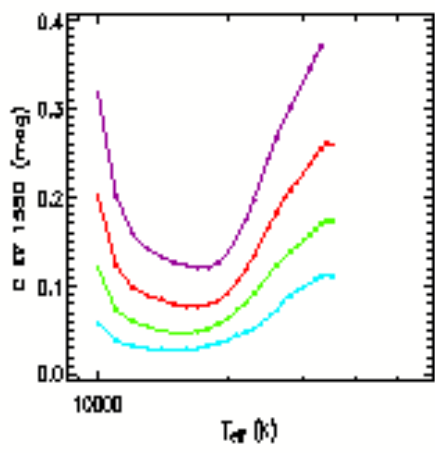
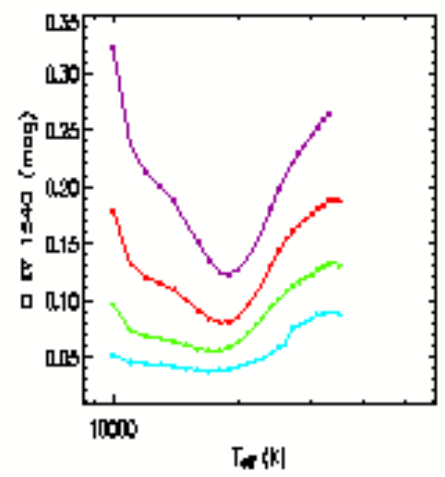
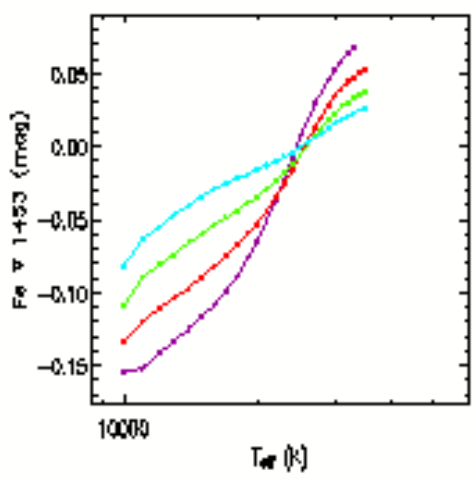
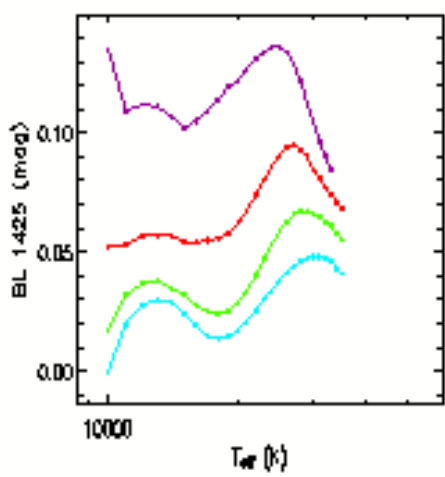
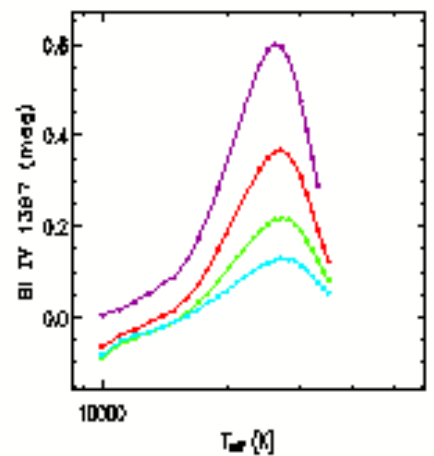
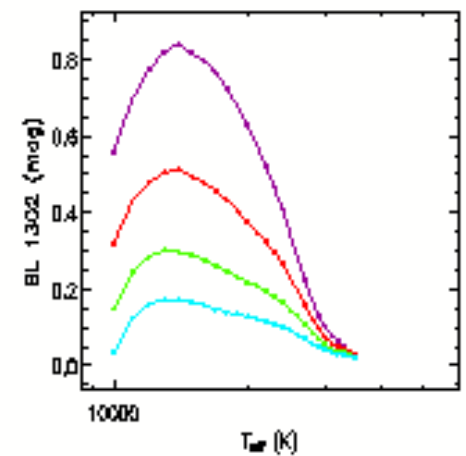
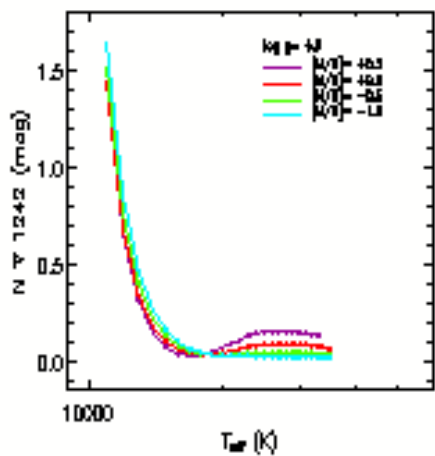
5500/4.5/0.0

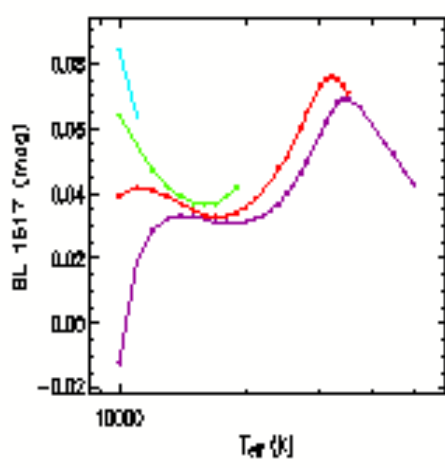
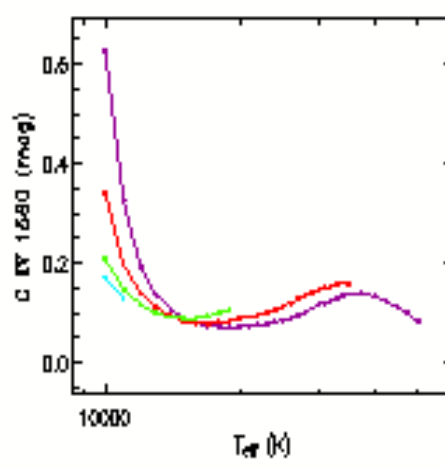
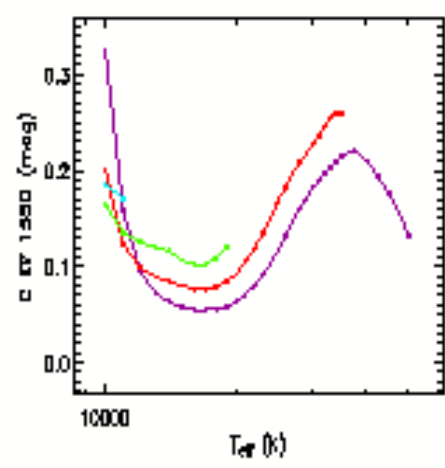
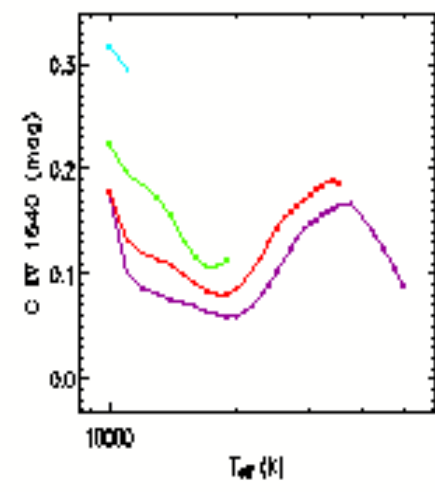
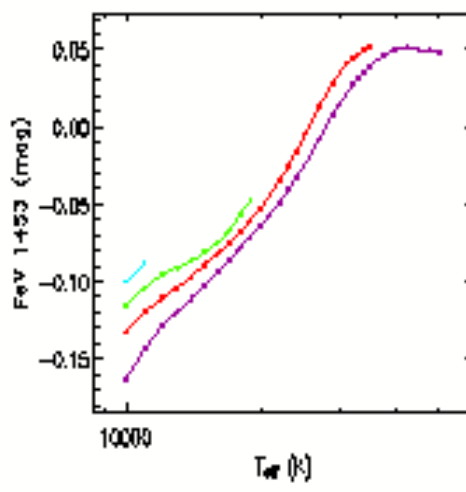
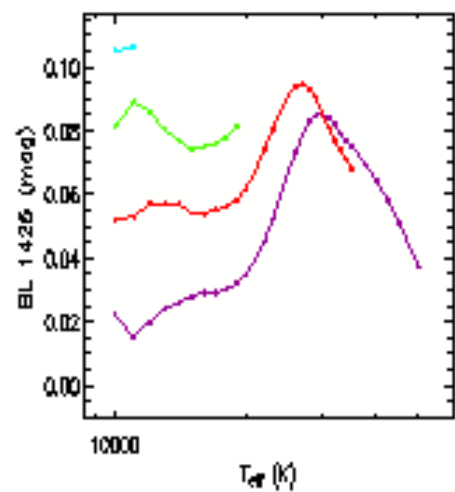
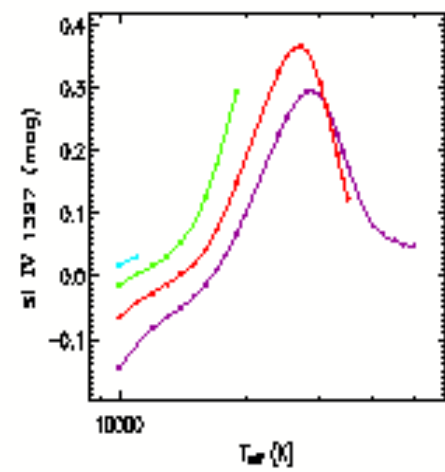
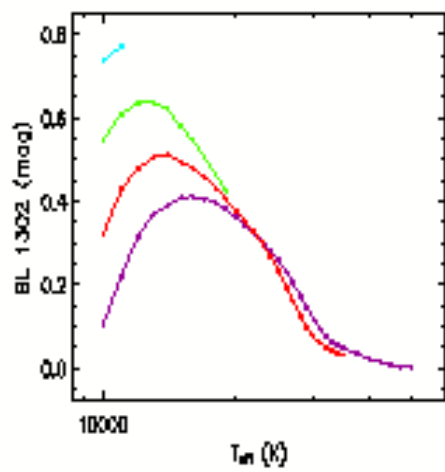
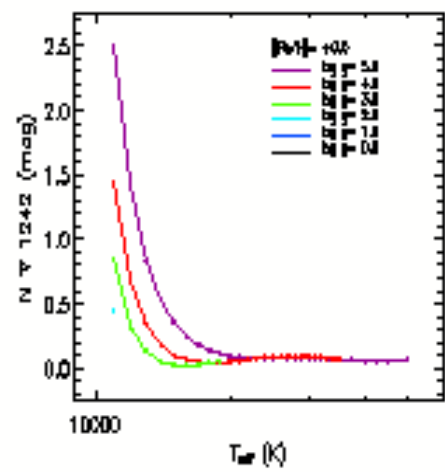




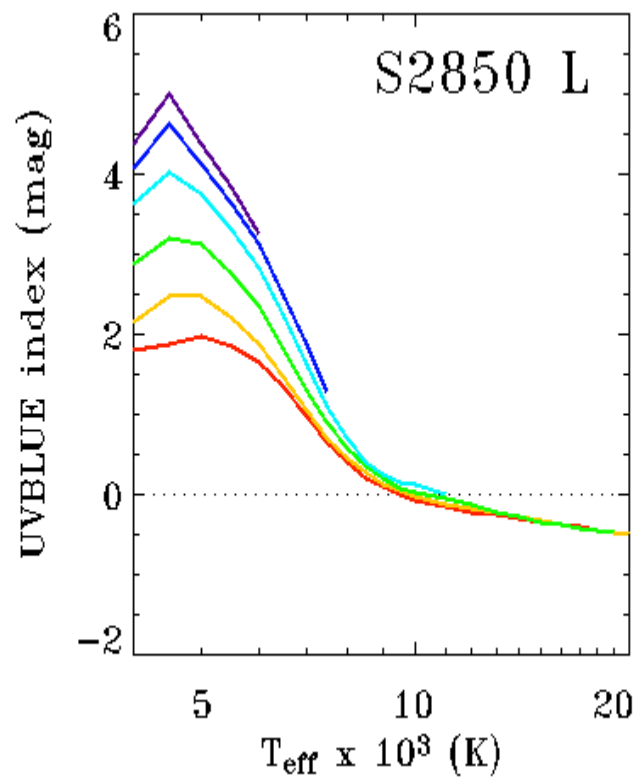
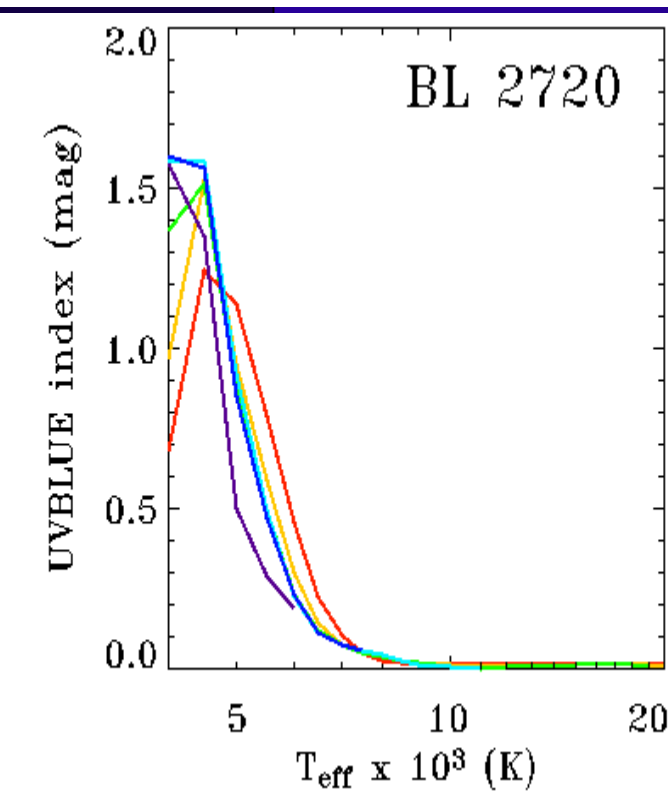
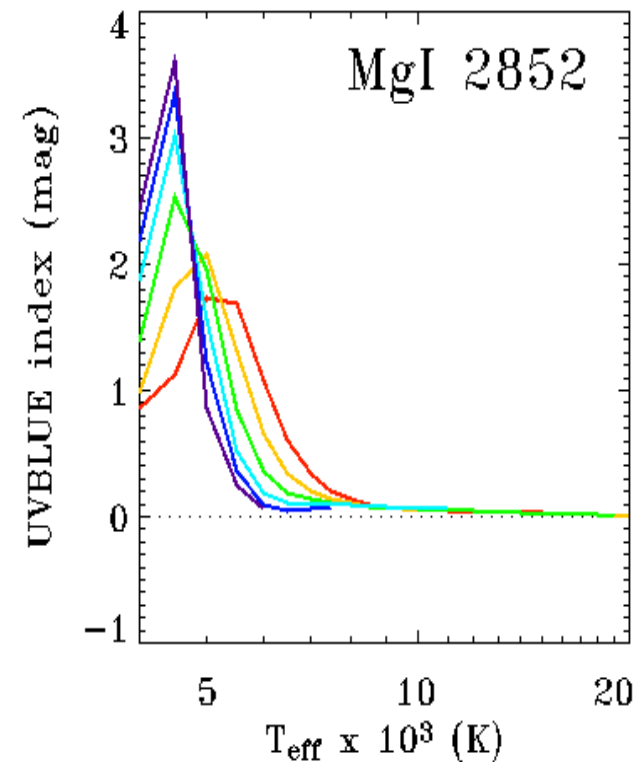
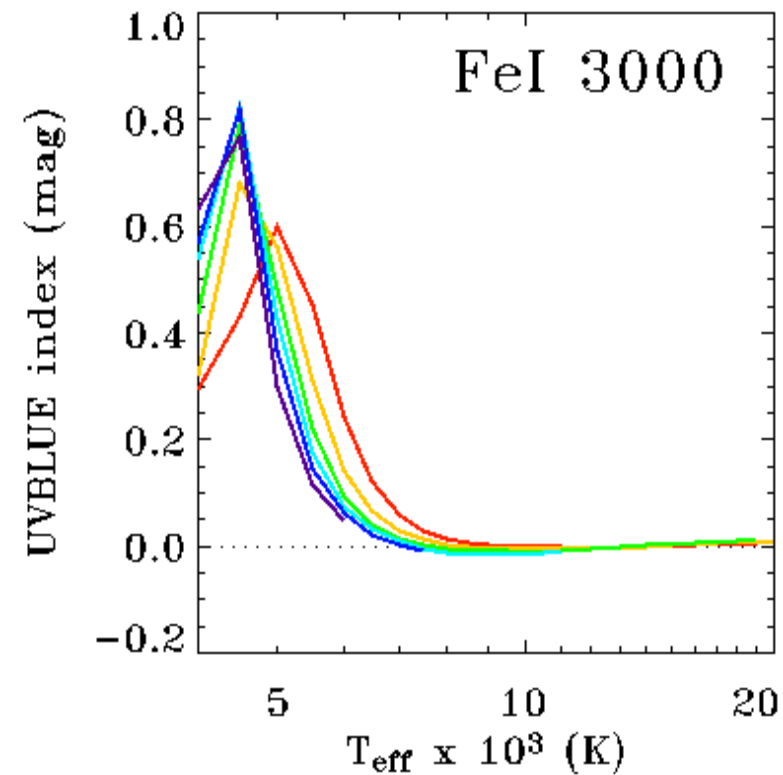
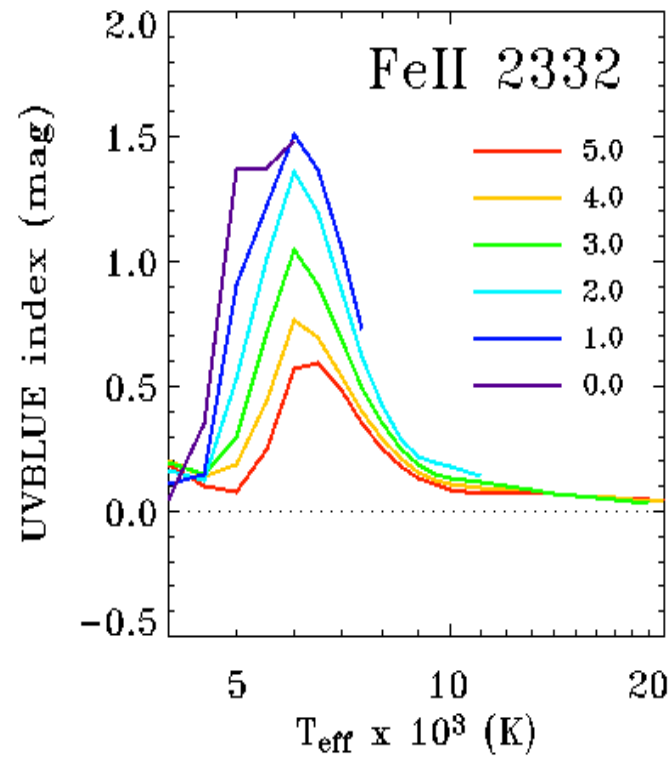
HALF FULL or HALF EMPTY?
an example: UVBLUE

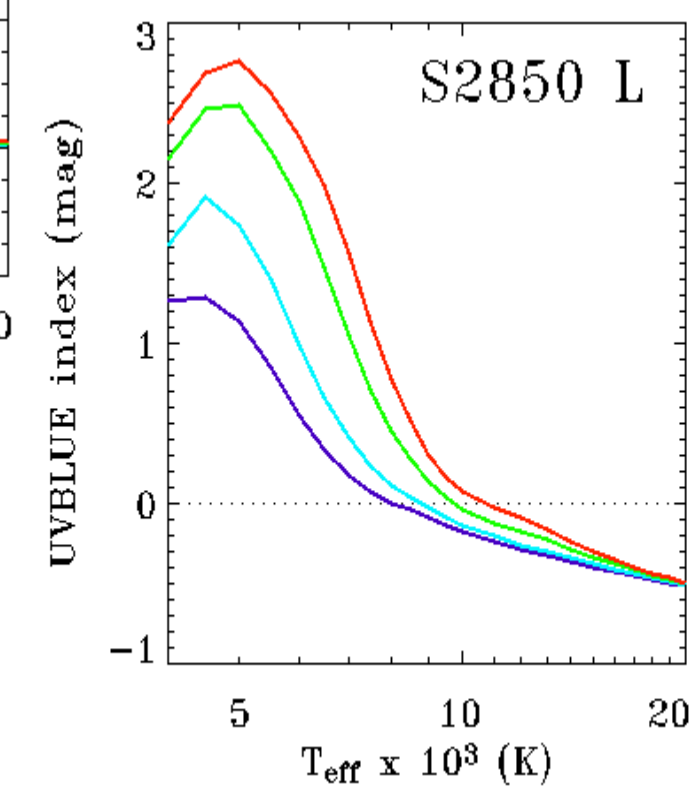
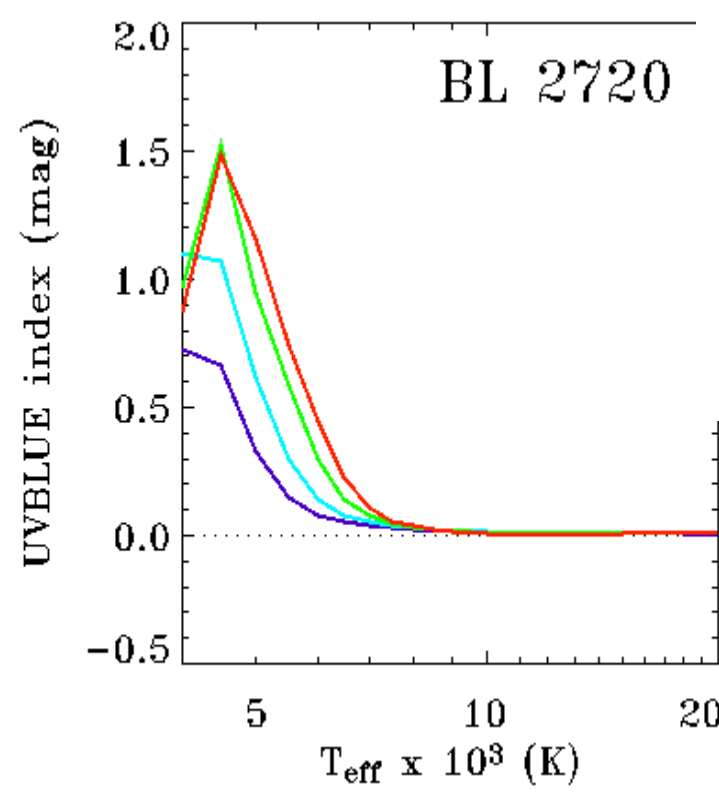
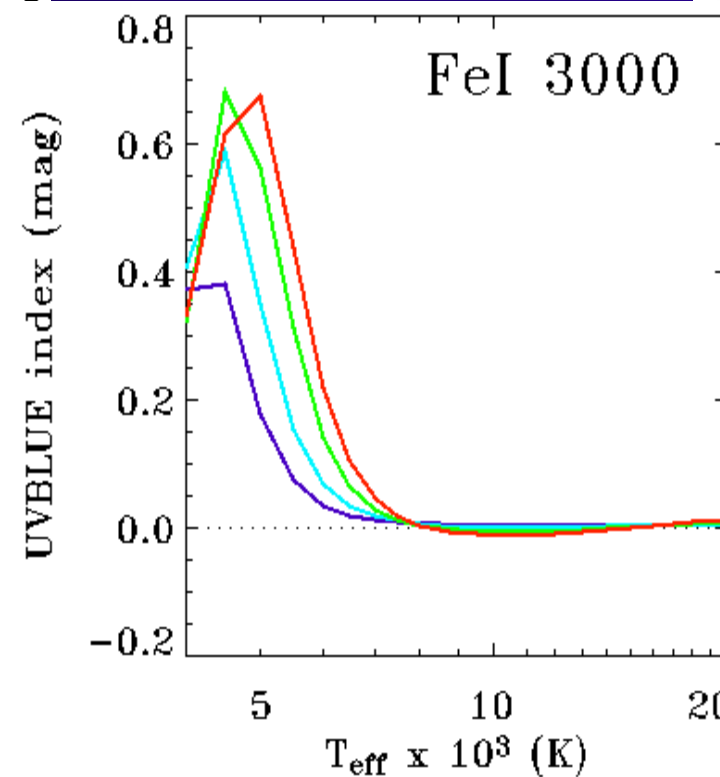
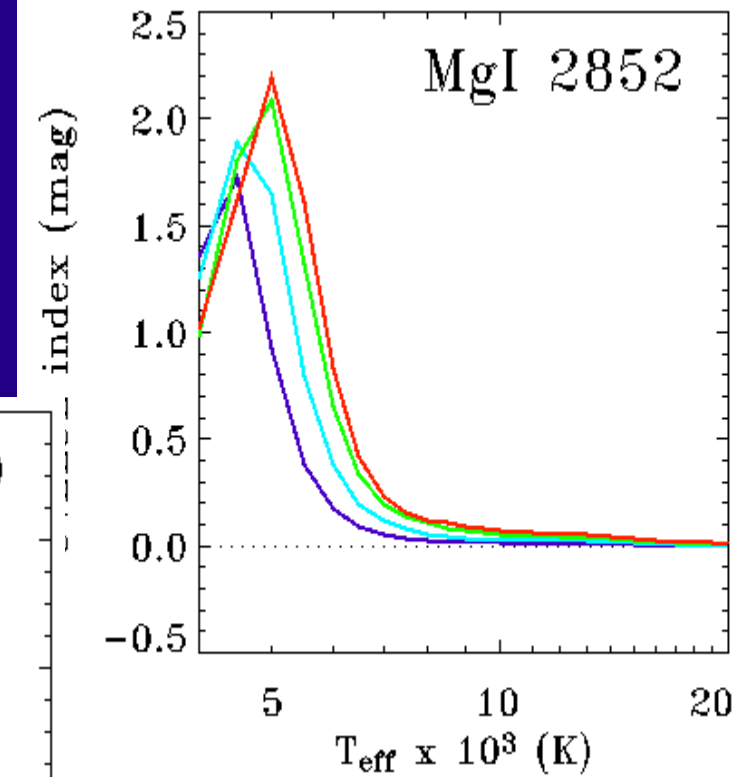
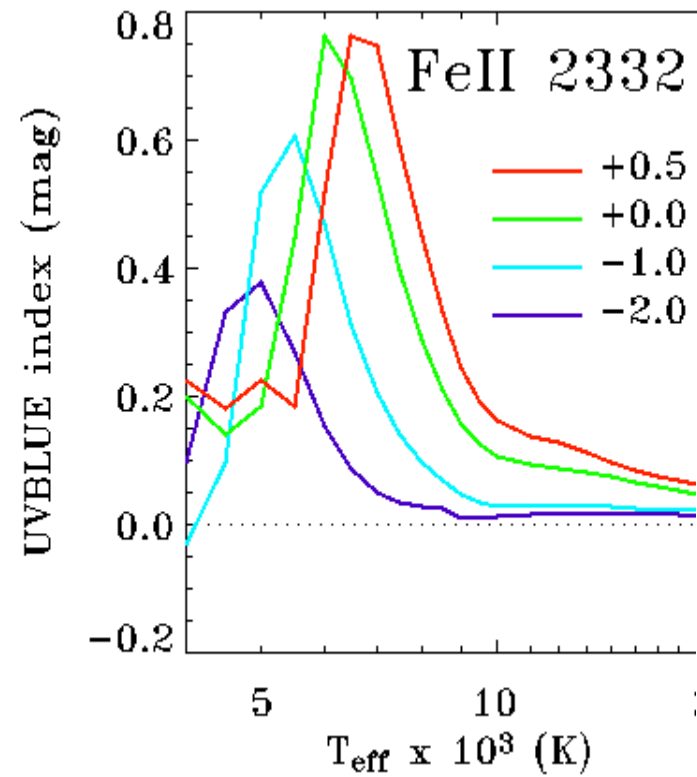


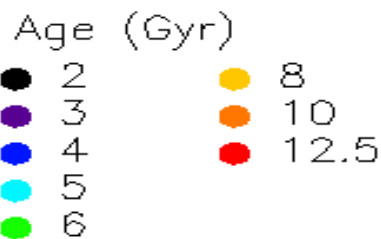
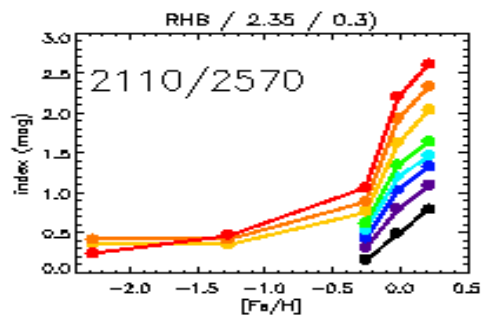
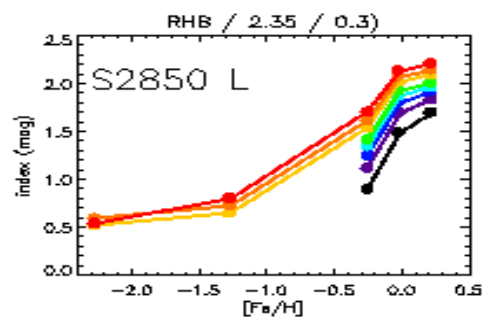
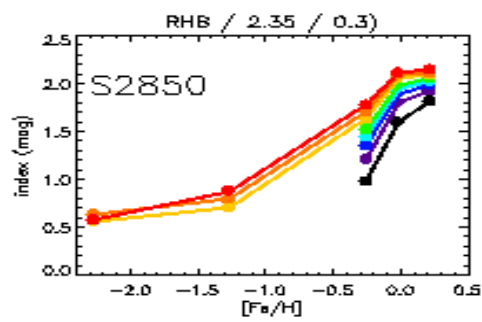
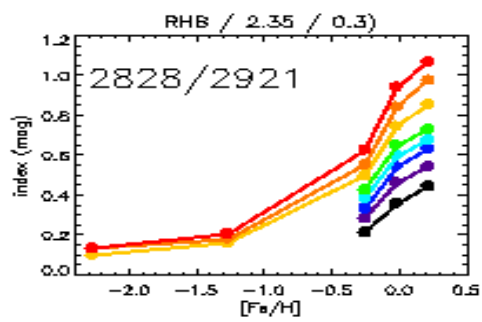
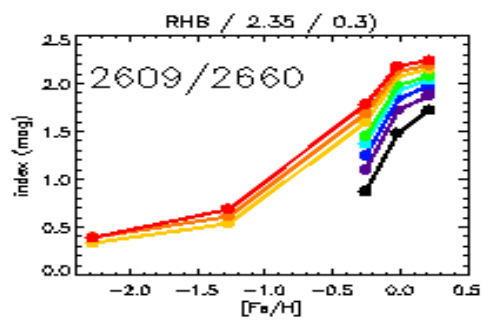
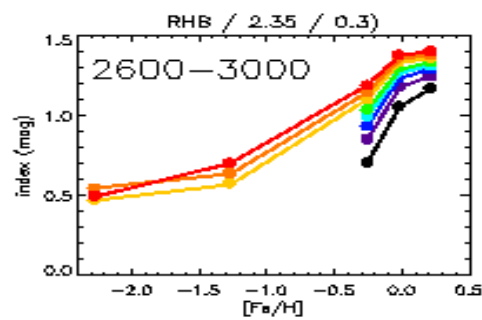
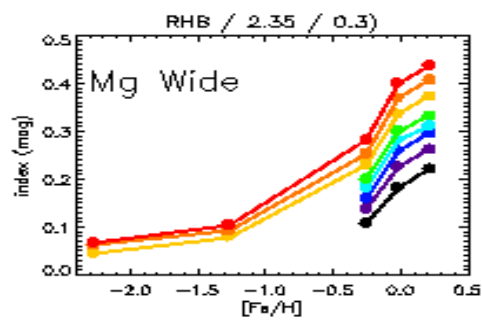
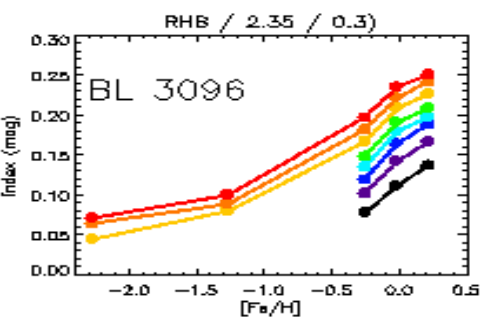
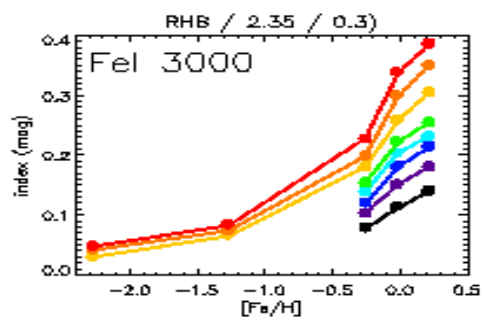
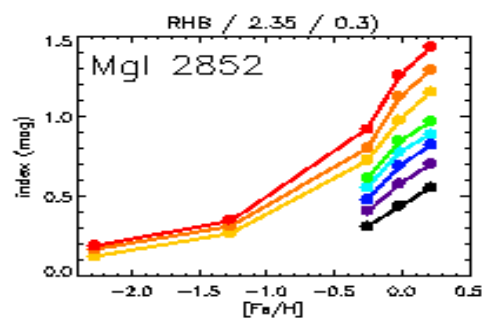
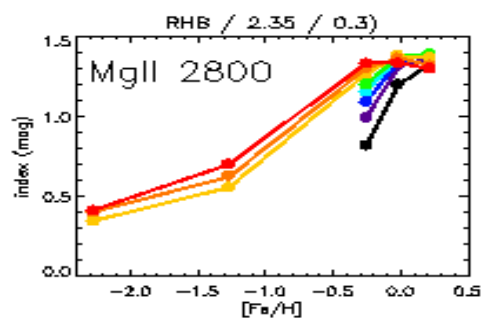
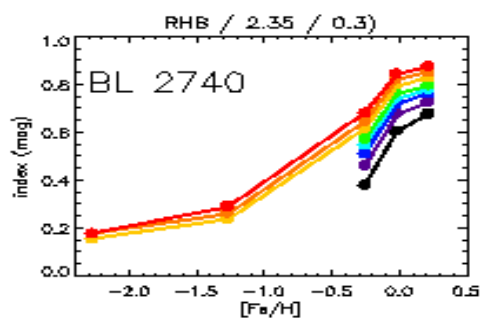
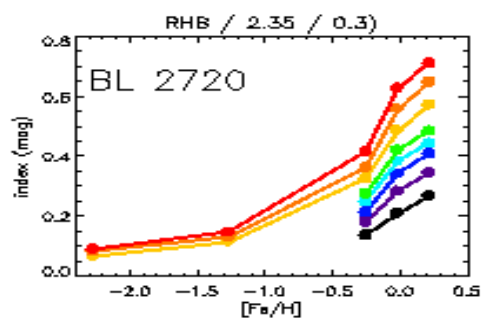
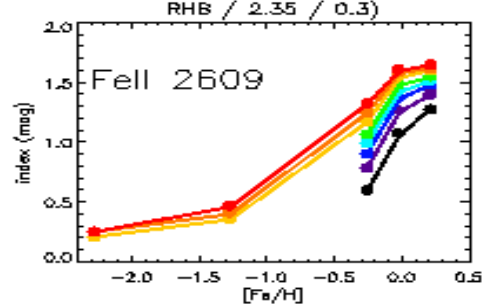
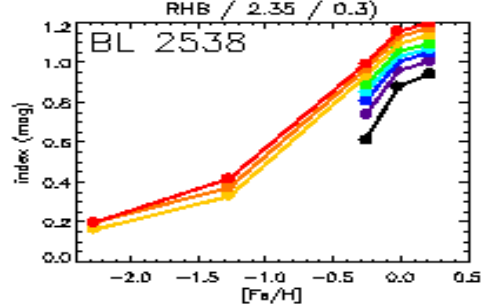
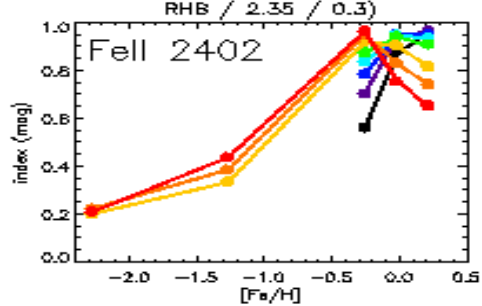
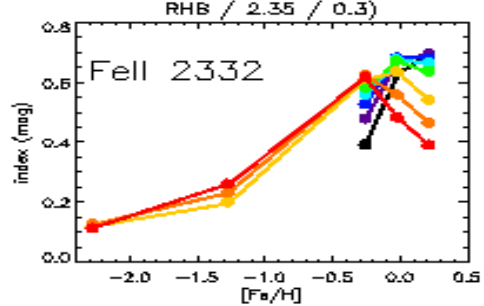


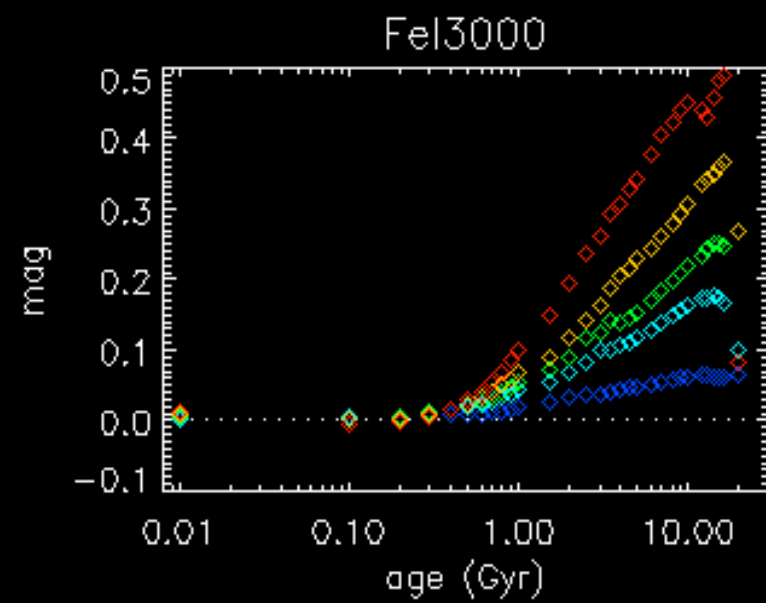
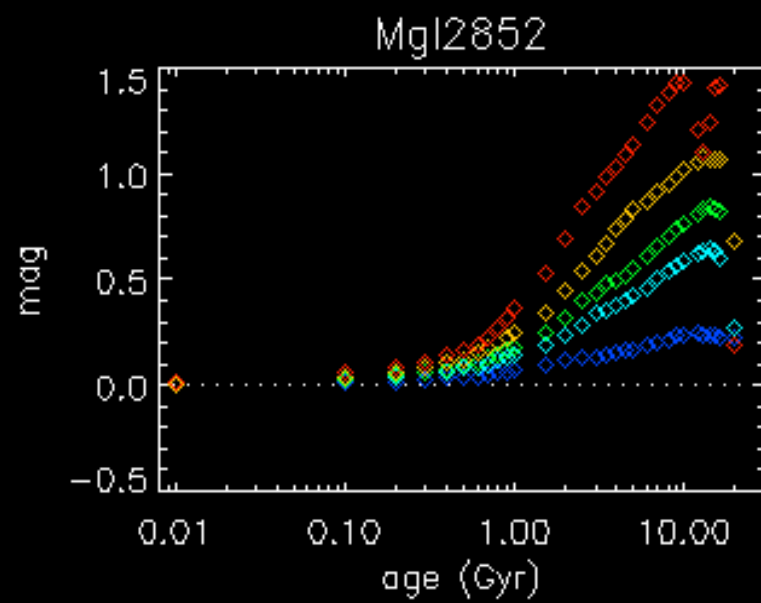
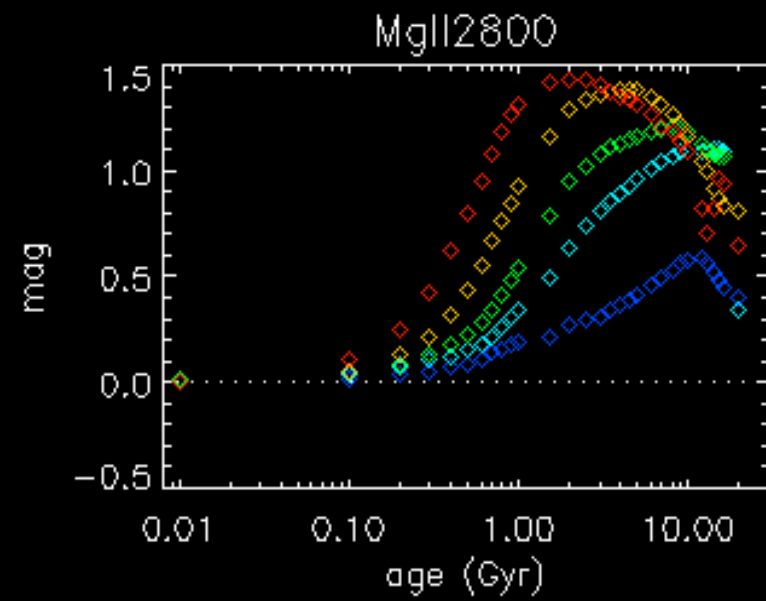
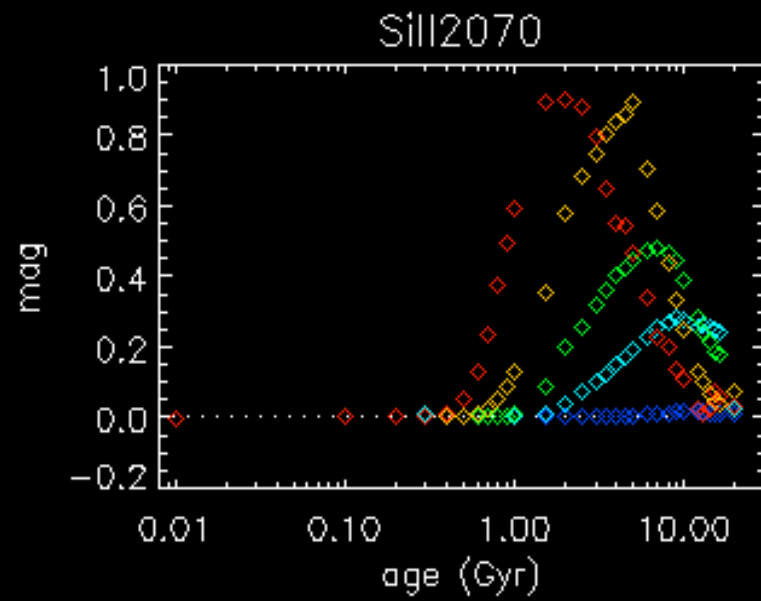


Mid-UV Indices: Fanelli et al (1990,1992)

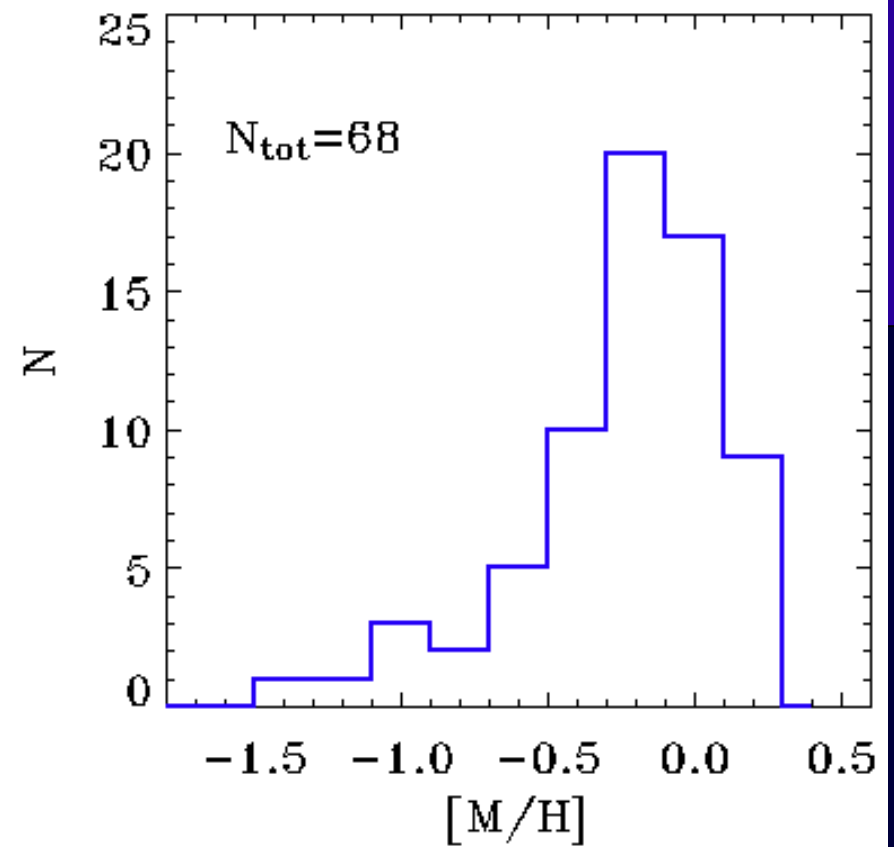
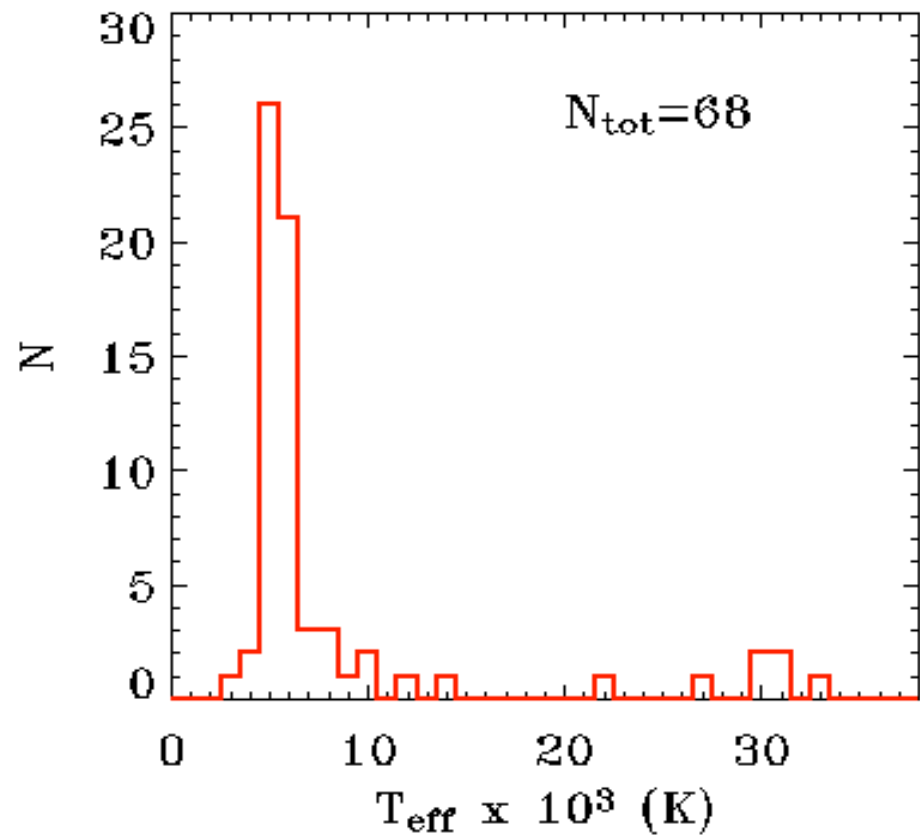




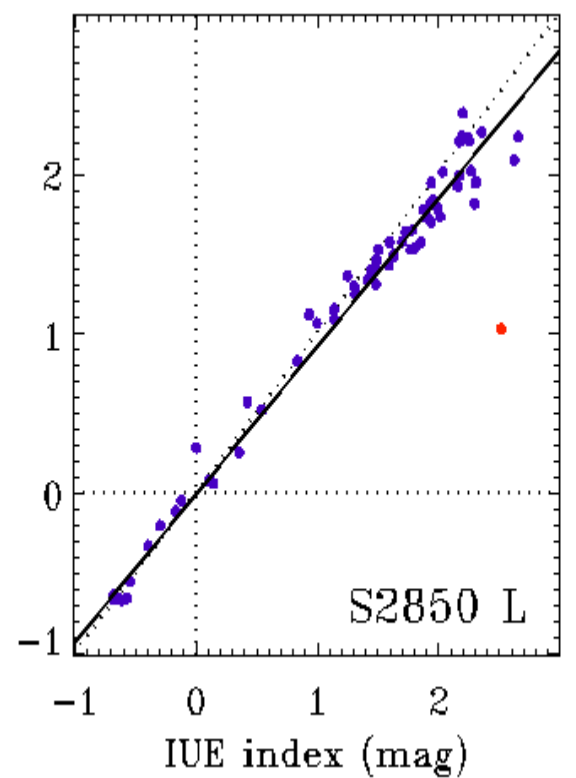
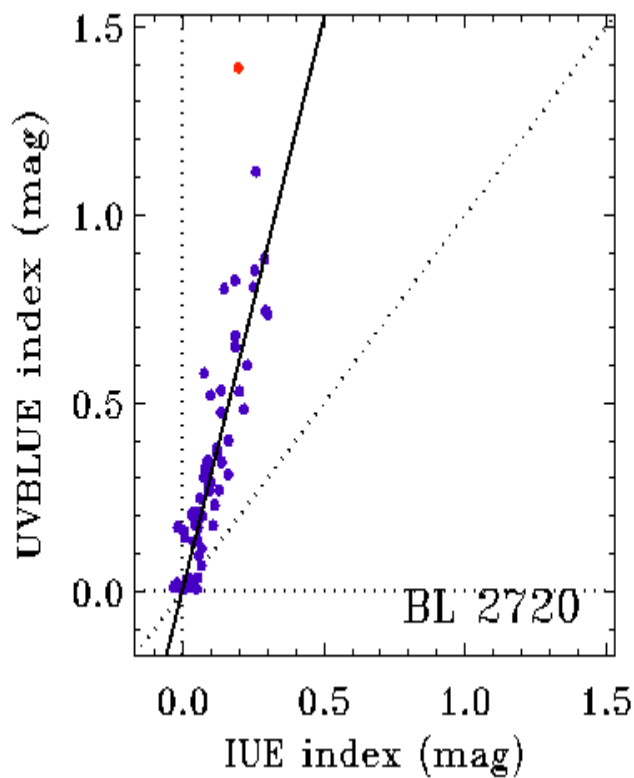
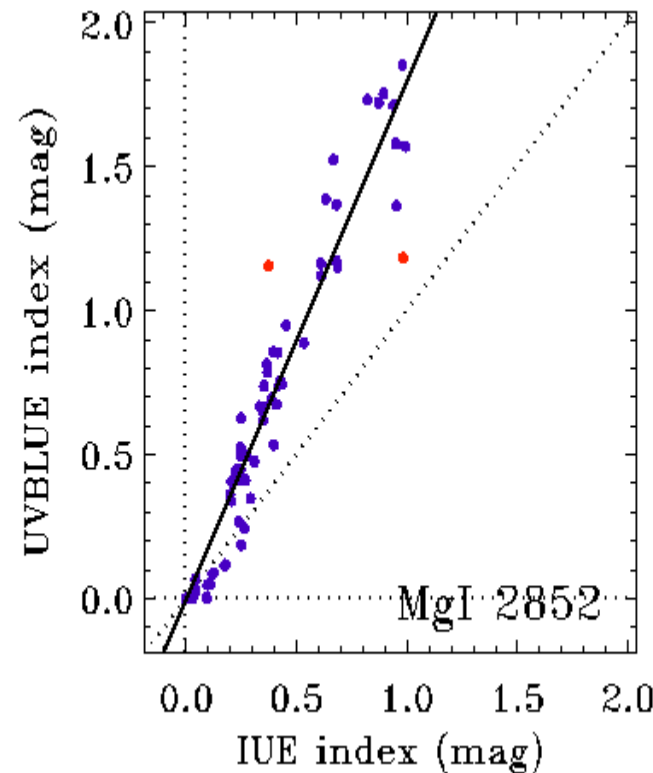
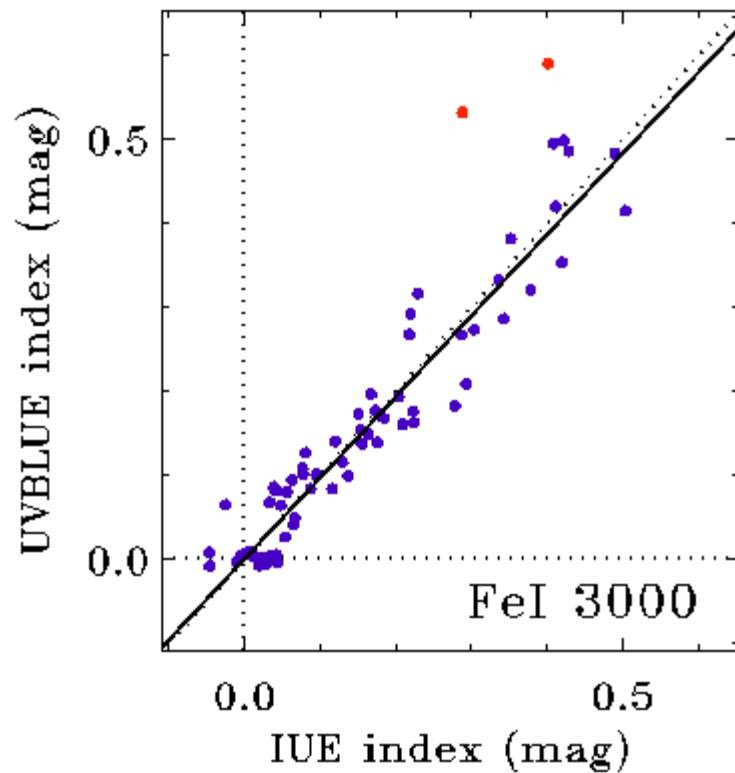
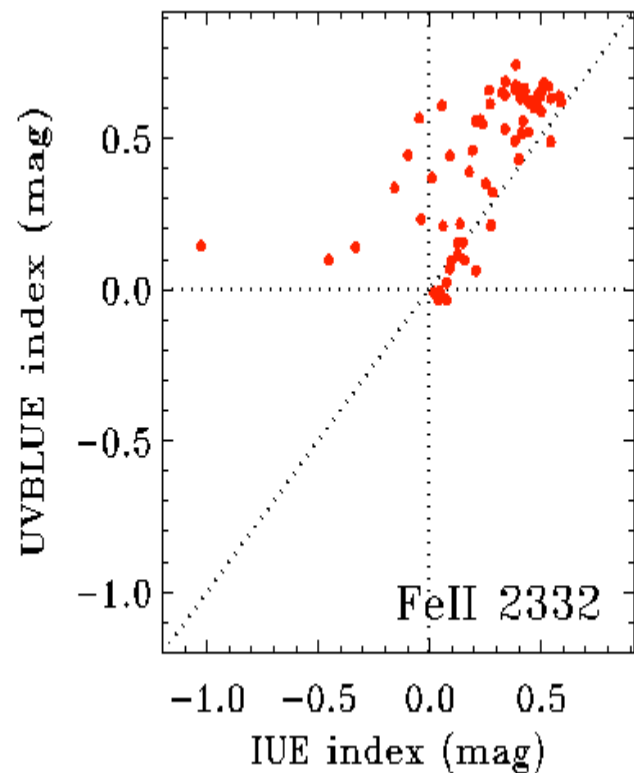




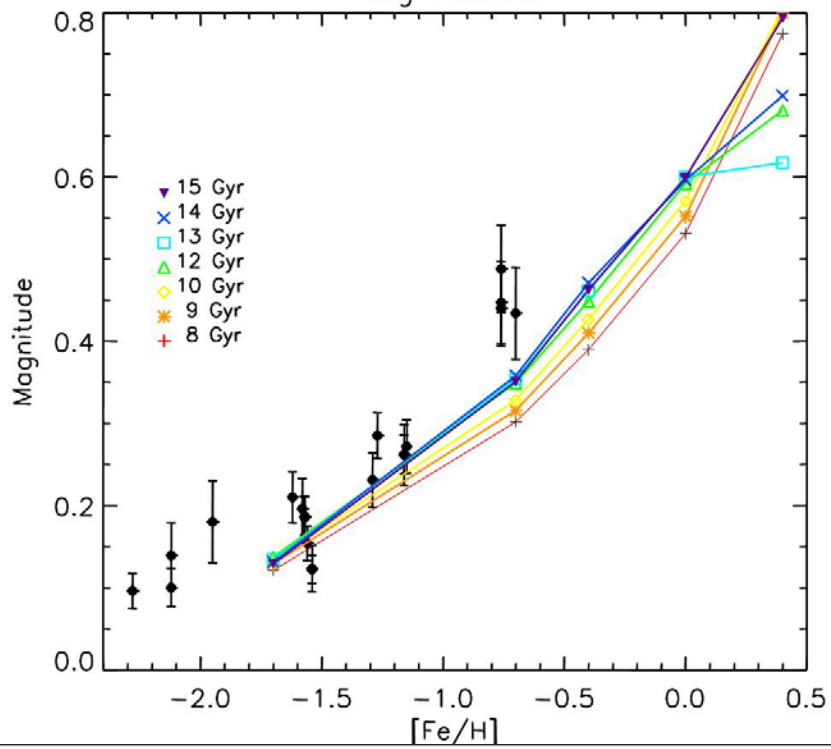
IUE STELLAR ATLAS



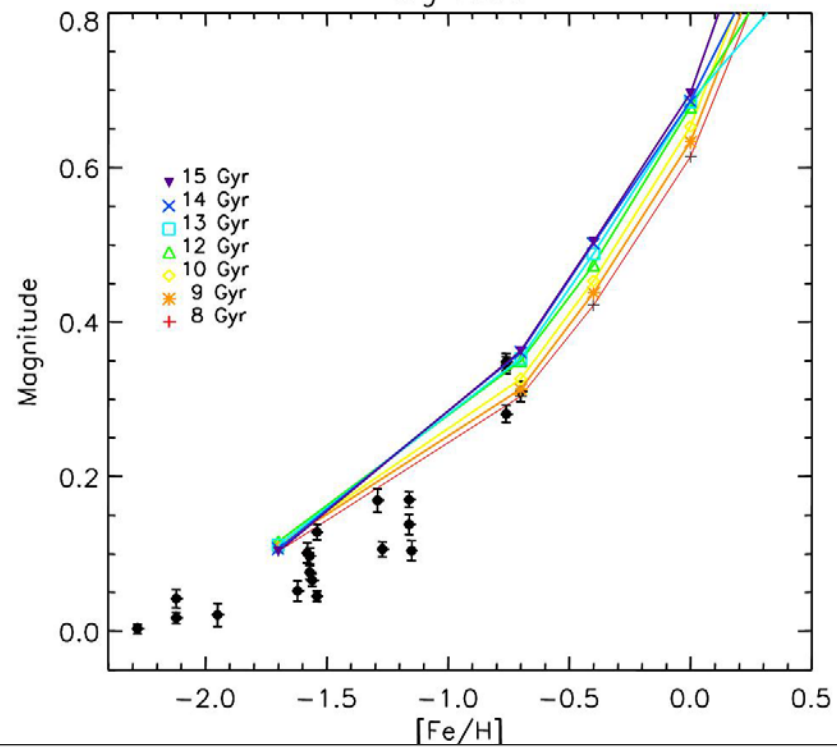
IUE vs UVBLUE



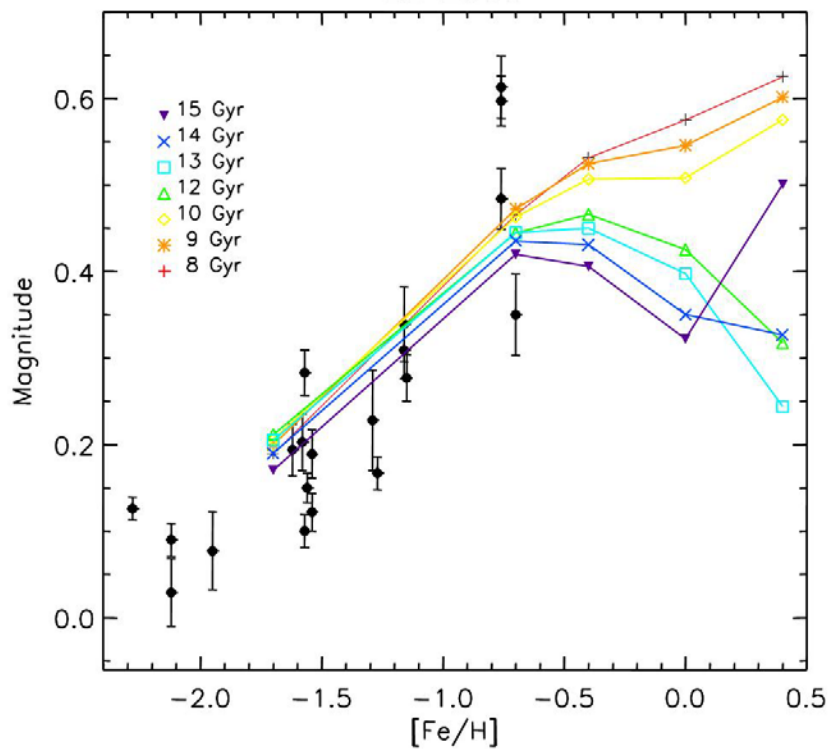
Mg I 2852



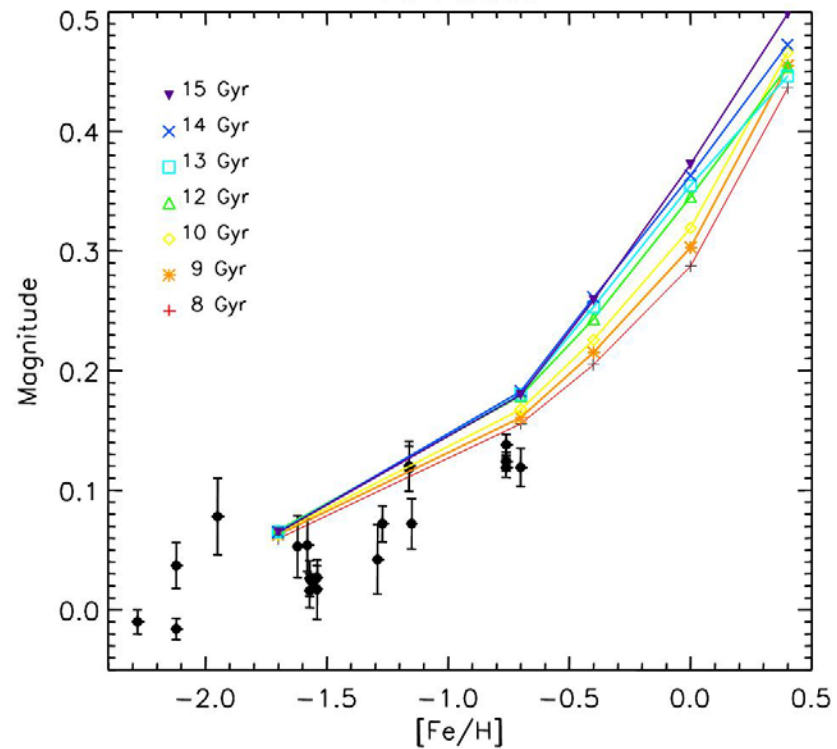
Mg Wide



BL 2538



Fe I 3000





New Quests in Stellar Astrophysics. II. Ultraviolet Properties of Evolved Stellar Populations

Puerto Vallarta-Mexico, Abril 16-20, 2007

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- * Alessandro Bressan (Italy)
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- * Raul Jimenez (USA)
- * Maria Lucia Malagnini (Italy)
- * Patrick McCarthy (USA)
- * Ricardo Schiavon (USA)

Topics

- * Breaking the Age-Metallicity Degeneracy
- * Nature and Effects of UV-bright Evolved Stars (BSS, EHB, etc)
- * Recent Advances in Populations Synthesis @ UV Wavelengths
- * The UV (observed and theoretical) Spectra of Late and Intermediate Type Stars (A, F, G and K)
- * Stellar Populations in High-z Red Galaxies
- * The UV up-turn in Ellipticals revisited
- * Mid-UV Morphology of Globulars and Local Ellipticals
- * Ultraviolet Instrumentation for the Future

Local Organizing Committee

- * Emanuele Bertone (Chair)
- * Daniel Rosa-Gonzalez
- * Miguel Chavez

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Work in progress

- **Extension of the grid in parameter space**
- **Include arbitrary abundances**
- **Detailed comparison with low and high dispersion data**
- **Update solar abundances**
- **Modify atomic parameters (Van der Waals, log gf, etc)**
- **Update the line list**
- **Explore index behavior in SSPs**
- **The Far-UV extension (SF Galaxies; Chavez et al. 2007c)**