ATLAS9 model atmospheres

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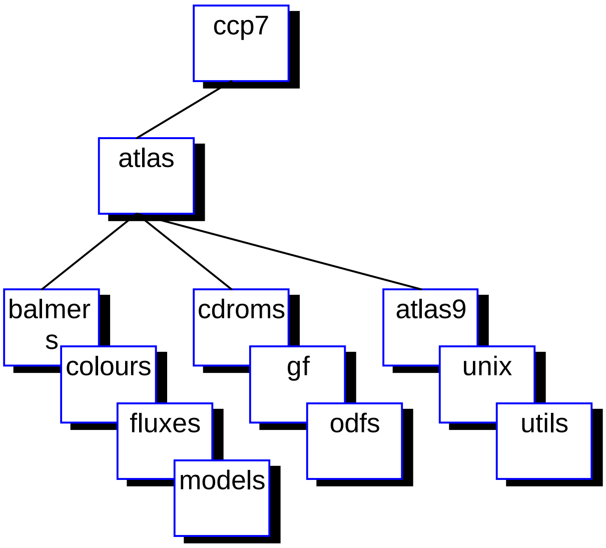
Kurucz (1991, in ‘Precision Photometry: astrophysics of the Galaxy’, eds A.G.Davis Philip, A.R.Upgren & K.A.Janes, L.Davis Press, Schenectady) has made an extensive series of model calculations for line-blanketed plane-parallel stellar atmospheres in LTE. CCP7 has copies of these model grids on-line which are available to registered users of the CCP7 SPARCstation and can be made available for uplift by anonymous ftp. The project distinguishes between model atmosphere structures (**models**), model atmosphere flux distributions (**fluxes**), and model atmosphere colour indices (**colours**) and Balmer-line equivalent widths (**balmers**).

On the CCP7 Sun SPARCstation, ATLAS related data and program files are stored in a folder structure as shown:



Considering folder **fluxes**, each of the following binary files contains a grid of approximately 400 flux distributions:

fm01k2.b	fm05k2.b	fm20k2.b	fm35k2.b	fm50k2.b	fp02k2.b	fp10k2.b
fm02k2.b	fm10k2.b	fm25k2.b	fm40k2.b	fp00k2.b	fp03k2.b	
fm03k2.b	fm15k2.b	fm30k2.b	fm45k2.b	fp01k2.b	fp05k2.b	

The wavelength grid is stored at the start of each binary file.

Each file corresponds to a prescribed composition, given relative to the solar metallicity. For example, consider the file **fm01k2.b**: ‘f’ implies that it is a flux distribution file, ‘m01’ corresponds to [Fe/H] = [-0.1], k2’ corresponds to a microturbulent velocity of 2 km/s and ‘b’ shows that it is a binary file.

Similarly, files containing model structures are of the form **a**mmm**k**n**.d**, Balmer line data is stored in files **b**mmm**k**n.**d** and colour index files are named according to their contents (e.g. **ubv**mmm**k**n.**d**).

Utilities for converting between binary and ascii flux distribution files and for extracting individual models may be found in /ccp7/atlas/utils, and are described elsewhere.

At present, not all of this data can be simultaneously loaded into the CCP7 anonymous ftp account (CCP7 User Note 2). Data for solar composition (x**p00k2**.y) are stored in the compressed tar file

ccp7.st-and.ac.uk (138.251.31.5) atlas.p00k2.tar.Z

Other compositions may be loaded on request. The conversion and extraction utilities are also available by anonymous ftp.