**POLLUX : a database of stellar spectra**

**SED and High Resolution Synthetic Spectra**

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**The POLLUX Database**

POLLUX is a stellar spectra database under development at the GRAAL laboratory (Montpellier, France). It is available to the community since January, 2008 via the webpage


The first (Jan 2008) and second (June 2008) releases are focused on the theoretical axis and propose high resolution synthetic spectra and spectral energy distributions.

The POLLUX database is also designed to serve automatic determination of stellar parameters. This can be done combining the synthetic spectra in POLLUX with observed data and using automated procedures for abundance determination. A project of this nature is already under development for the data in the CASTOR EsPhonG/MARVAL archive, using the MATISSE software.

**Some Statistics**

- Log of connections over 1.5 months following the opening of the database
- Log of connections over 1.5 months during normal period

**Top countries for connections**

France, USA, Sweden, Vietnam

**Main requests**

- Spectra research
- Visualisation

**Theoretical Data**

- Computed data for stellar spectral types from O to M at solar metallicities, using:
  - the best available models of atmosphere (CMFGEN, ATLAS and MARCS)
  - performant spectral synthesis codes (CMF_FLUX, SYNSPEC and TURBOSPSCTRUM)
  - appropriate atomic and molecular line lists

- High resolution synthetic spectra
  - computed from 300 nm to 12000 nm at spectral resolution $R = 150000$
  - normalised to the continuum or displayed in absolute flux
  - colour-magnitude diagram coverage in Teff, log g

**Representation in the ($T_{\text{eff}}$, log g) planes of the grid of high resolution synthetic spectra and SEDs computed for O-B, A-F and G-M stars from MARCS/TURBOSPSCTRUM, ATLAS/SYNSPEC and CMFGEN codes respectively.**

**Spectral Energy Distributions presented over the entire wavelength domain for a typical star in the spectral domain covered respectively by the CMFGEN (left), ATLAS (center) and MARCS (right) codes.**

**Blow-up in the GAIA RVS wavelength domain of the synthetic spectrum of cool, warm and hot stars from the POLLUX database**