



Contribution ID: 73

Type: Oral

# Is telluric correction required for precise radial velocities?

*Monday 18 March 2019 17:00 (20 minutes)*

Stellar spectra are polluted with the absorption lines produced by the Earth's atmosphere. Earlier modeling work showed that a perfect telluric correction increases the radial velocity precision compared to masking the regions affected by telluric absorption. But what is the case for real observations? With CARMENES near-infrared spectra, I will show the impact of the telluric correction on the radial velocity precision effectively derived, before and after telluric correction using the synthetic transmission method Molecfit. I will discuss the advantages and limitations of the synthetic transmission methods. Finally, with ESPRESSO data, I will show the impact of the correction methods on the micro-telluric lines ( $< 2\%$ ) and their possible improvements.

**Authors:** Dr ULMER-MOLL, Solene (IA/U. Porto); Dr SANTOS, Nuno (IA/U. Porto); Dr FIGUEIRA, Pedro (ESO and IA/U. Porto); NEAL, Jason (Centro de Astrofísica da Universidade do Porto)

**Presenter:** Dr ULMER-MOLL, Solene (IA/U. Porto)

**Session Classification:** Telluric contamination in EPRV

**Track Classification:** Telluric contamination