

Poster

Splinter Exoplanets

USING THNE CALIBRATION LAMPS FOR THE RADIAL VELOCITY
METHOD

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The search for planets in the habitable zone around M dwarfs, like with CARMENES, requires a spectrograph that operates in the red part of the visible spectrum and offers a long-term precision of 1 ms^{-1} in radial velocity measurements. ThAr hollow cathode lamps (HCLs) are the traditional choice for wavelength calibration but the red part of the spectrum is polluted with numerous strong and saturated lines of the filling gas Ar. The use of Ne is more promising. A critical issue for all HCLs is the current at which the lamp is operated. A low value of the operating current has the advantage that the lifetime of the lamp is longer whereas the number of useful lines is lower. This is important since the required calibration precision can only be achieved when combining a large number of spectral lines. We will report on measurements of a ThNe HCL taken at different operating currents. They were obtained with the Echelle spectrograph at the Thuringian State Observatory in Tautenburg.