



The fingerprint of a star: HD 128311

HD 128311 (BD+10°2710 = HN Boo) is a K3 dwarf star with two planets. It has been classified as a BY Draconis variable which are a class of chromospherically active cool main-sequence stars with spots on their surface. Its rotation period is 11.5 days. The mass of the star is 0.8 solar masses and has a radius of 0.73 solar radii. It appears slightly overabundant in metals compared to the Sun. This poster shows the optical spectrum of HD 128311 obtained with the Potsdam Echelle Polarimetric and Spectroscopic Instrument (PEPSI) of the Large Binocular Telescope (LBT). It plots the normalized intensity as a function of wavelength λ in Angströms (1Å =0.1nm) from the

top left corner to the bottom right corner. The PEPSI spectrum covers the wavelengths between 3820 Å (top left) and 9130 Å (bottom right) with an average spectral resolution of $R=\lambda/\Delta\lambda=220,000$ or approximately 1.4 km/s. Its average dispersion is 0.012 Å/pixel. Integration time with the LBT was 10 min and consists of 2-3 exposures in all six cross dispersers. The signal-to-noise ratio (S/N) of the spectrum peaks at 430:1 at 8250 Å and has a low of 20:1 near the blue cutoff. The bluest part appears underexposed and we omitted it from the poster. The exposure was obtained on April 8, 2015. A subset of spectral absorption lines is identified in the graphics and

marked with dashes beneath the spectrum. The annotation indicates the chemical element (e.g., Fe for iron), the ionization state (I for a neutral line, II for an ionized line), and the wavelength in Angström. The original spectrum has been published in *Astronomy & Astrophysics* (Strassmeier, K. G., Ilyin, I., & Weber, M. 2018, A&A, **612**, A45; see <https://pepsi.aip.de/>).

