The fingerprint of a star: τ Cet

τ Ceti (52 Cet = HD 10700) is a G8.5 dwarf star and spectrally similar to the Sun, although it has only about 78% of the Sun's mass. At a distance of just under 12 light-years from the Solar System, it is a relatively nearby star. The star appears stable, with little stellar variation, and is metal-deficient. Observations have detected more than ten times as much dust surrounding τ Ceti as is present in the Solar System. Since 2012, there has been evidence of possibly five planets orbiting τ Ceti, with two of these being potentially in the habitable zone. This poster shows the optical spectrum of τ Cet 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 2 min, and 40 min with the VATT, and consists of 5-9 exposures in all six cross dispersers. The signal-to-noise ratio (S/N) of the spectrum peaks at 1910:1 at 7000 Å and has a low of 420:1 near the blue cutoff. The

exposure was obtained on October 1, 2016. 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/).