



The fingerprint of a star: 32 Gem

32 Geminorum = HD 48843 is an A8-9 giant or even bright giant classified with a Morgan-Keenan class III or II luminosity in the literature. The star is among a small group of A-B stars with very low projected rotational velocities for this class of stars ($v \sin i \approx 11$ km/s; v being the equatorial rotational velocity and i the inclination of the star's rotational axis) which, together with its brightness, makes it a good target for the study of A-star giant atmospheres. The projected rotational velocity of a star is also a basic datum that is important in understanding the evolution of both single and binary stars. For some early-type spectral classes, rotational velocity appears to

be a discriminant for stars with peculiar spectra, such as Be stars and Am and Ap stars. This poster shows the optical spectrum of 32 Gem 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 ($1\text{\AA} = 0.1\text{nm}$) 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 5 min and

the spectrum consists of two exposures in all six cross dispersers. The signal-to-noise ratio (S/N) of the spectrum peaks at 480:1 at 7000 Å and has a low of 100:1 near the blue cutoff. The exposure was obtained on April 10, 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/>).

