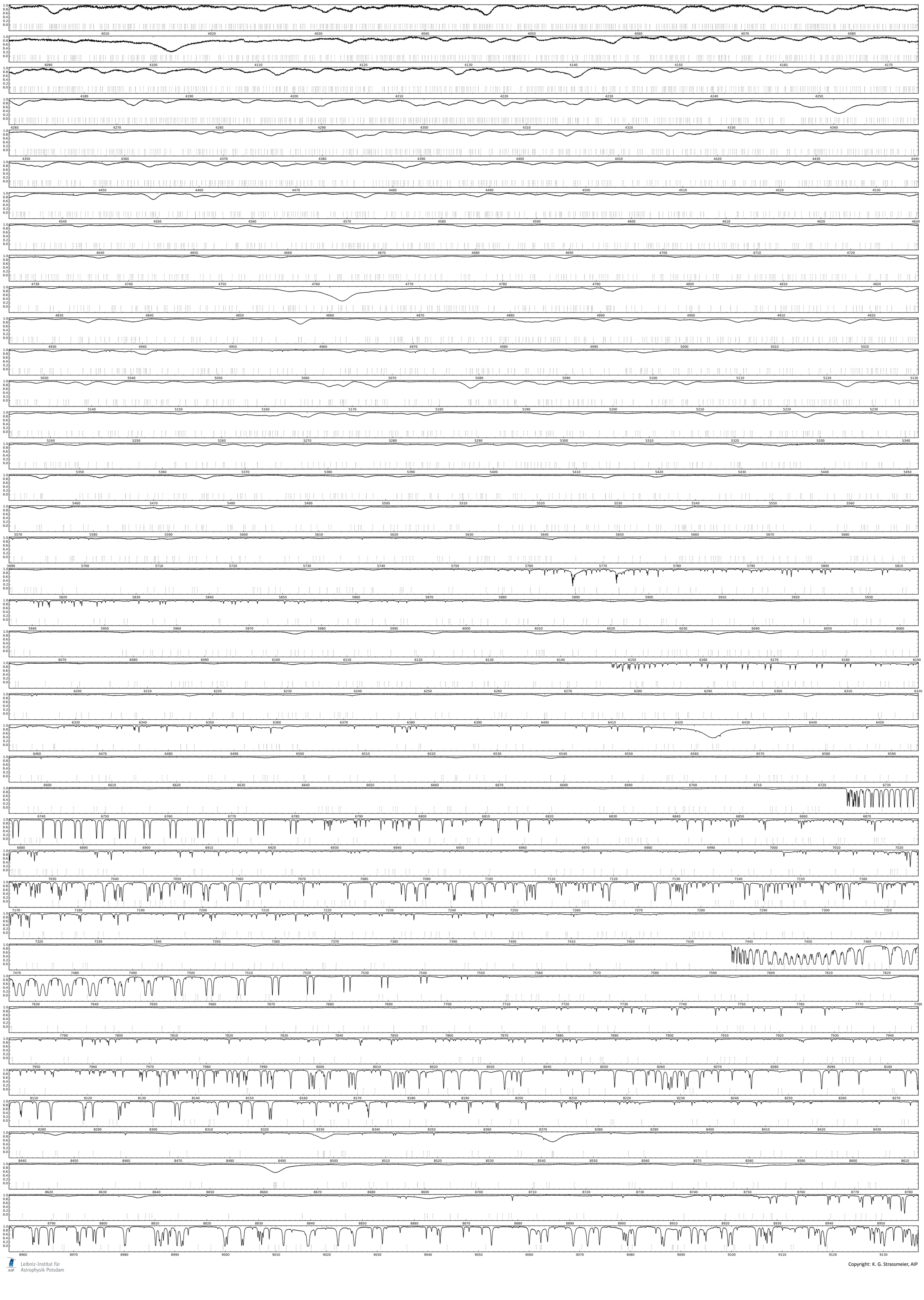
The fingerprint of a star: HD 189333

HD 189333 = BD+38°3839 is a F9 dwarf star. HD 189333 is a star similar and close to the famous planet-transit star HD 189733, was classified F5V from photographic spectra by as long ago as 1949, which is pretty much all there is known for this star until the recent data release of *Gaia*. This poster shows the optical spectrum of HD 189333 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 30 min and consists of one exposures in all six cross dispersers. The signal-to-noise ratio (S/N) of the spectrum peaks at 290:1 at 7000 Å and has a low of 25:1 near the blue cutoff. The bluest part appears underexposed and we omitted it from the poster.

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/).



Leibniz-Institut für
Astrophysik Potsdam