
The HES Spectrum of the Quadrupole Planetary Nebula NGC 6881

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Planetary nebula NGC 6881 displays quadrupole morphology and it also has a jet feature in the image. Using the Hamilton Echelle Spectrograph(HES) at the Lick observatory, we secured spectral emission lines in the 3700Å to 10050Å wavelength range. The line profiles have been investigated from the strongly registered emission line profiles of e.g. HI, HeI, HeII, [OIII], [NII], [ArIII], and [SII] using IRAF and StarLink/Dipso reduction packages. The HI recombination lines show one single Gaussian profile, while most other strong lines display double peaks. The diagnostic lines indicate that the nebula itself is of high excitation, i.e. $T_e \sim 13,000$ K and $N_e \sim 10^{3.8-4.2} \text{cm}^{-3}$. The kinematic information derived from the line profiles, however, does not show any extremely fast motion expected from the presence of the jet.