

UV AND FUV SPECTROSCOPY OF THE HYBRID PG 1159 STAR NGC 7094

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PG 1159 stars are a spectroscopic group of about 40 very hot, hydrogen-deficient post-AGB stars. FUSE spectroscopy of three PG 1159-type central stars of planetary nebulae (CSPN), namely K1-16, NGC 7094, and Abell 78, has shown that these are iron deficient. Reasons for this phenomenon may be dust-fractionation (depleted elements are incorporated in dust grains and are then expelled from the photosphere by radiation pressure) or the s-process (n-captures during the AGB phase). The detection of s-process signatures in H-deficient post-AGB stars can verify our current understanding of the synthesis of trans-iron elements in low-mass AGB stars: these stars contribute to the metal enrichment of the interstellar medium and hence affect the Galactic chemical evolution.

Our NLTE model atmospheres for these stars predict strong Ni VI and Ni VII lines, however, these are not located in the FUSE wavelength range (904 - 1187 Å). While Ni VII lines are found at shorter wavelengths, Ni VI lines appear at lower energies, accessible with the Space Telescope Imaging Spectrograph (STIS).

Based on a STIS spectrum (1144 - 1729 Å) of the CSPN NGC 7094, we present preliminary results of an on-going state-of-the-art spectral analysis by means of NLTE model-atmosphere techniques. We have employed TMAP, the Tübingen Model-Atmosphere Package, in order to calculate fully metal-line blanketed model atmospheres which consider the opacities of all elements from hydrogen up to the iron group.