

## UV survey of central stars of planetary nebulae: occurrence and variability of stellar winds

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### Abstract

The occurrence of a stellar wind in the central star of a planetary nebula (CSPN) is revealed by the presence of P Cygni profiles of high-excitation lines overimposed on its stellar continuum. We have used the entire Far-Ultraviolet Spectroscopic Explorer (*FUSE*) archive to investigate the occurrence and variability of P Cygni profiles of high-excitation lines. All useful spectroscopic observations have been merged to produce the highest quality spectra that can be used to assess the occurrence of stellar winds through the P Cygni profiles of high-excitation lines. The individual spectra have been compared to search for variability in the P Cygni profile. P Cygni profiles of high-excitation lines have been found in more than 40 CSPNe, with a clear correlation between the ionization potential of the lines and the effective temperature of the star. Ten CSPNe show variability in the P Cygni profile of high-excitation lines, preferentially in the unsaturated P v and Si IV lines, but also in saturated C III and O VI lines. The CSPNe with variable P Cygni profiles have similar stellar and wind properties that suggests they are not in an evolved evolutionary status. Some of the CSPNe with variable P Cygni profile show O VI lines, while their effective temperature are insufficient to produce this ion. We suggest that this ion is produced by Auger ionization from X-rays associated to shocks in their stellar winds as is the case of super-ions in OB stars.