GHOST SV Observation Evaluation Form

Title: Searching Raman O VI Features in Galactic SySts

Program ID: GS-2023A-SV-103

Authors: Jeong-Eun Heo

Description of the primary goals and the main findings

The main goal of this observation was to obtain high-resolution spectra of Galactic symbiotic stars. We selected five targets, all of which had previously displayed confirmed Raman O VI features in their mid-resolution spectra but had never been observed with high-resolution spectrographs.

Among our selected targets, two objects (V366 Car and Hen 3-828) were observed during the SV run. These observations were executed on May 16th, under CC50/IQ85 conditions, with an average seeing of ~1.0".

Figure 1 displays a GHOST spectrum of V366 Car. The GHOST data reveals that V366 Car has strong Raman O VI features with multiple components. Furthermore, the GHOST data led to a serendipitous discovery of Raman C II features at 7022 and 7054A. This discovery is noteworthy as these features are relatively faint and have only been reported in two other symbiotic stars to date: RR Telescopii and V1016 Cyg. In contrast, Hen 3-828 appears to have lost its Raman O VI features.
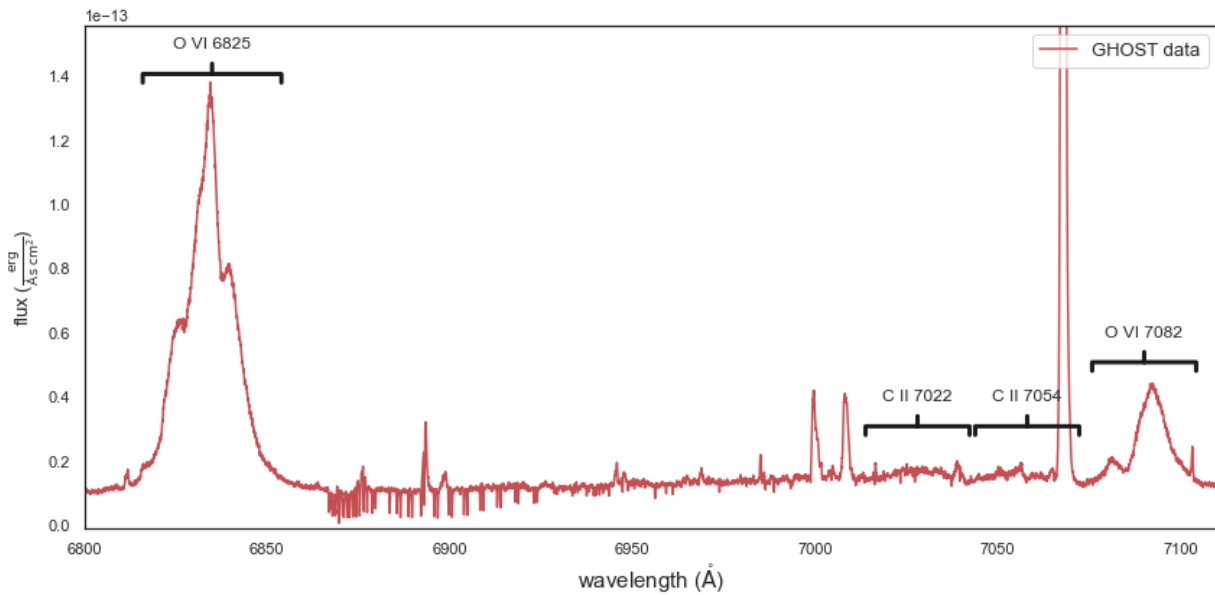
Figure 1. GHOST spectrum of V366 Car. We have detected strong Raman O VI features at 6825 and 7082 Å and made an unexpected discovery of Raman C II features at 7022 and 7054 Å.

Additional comments on GHOST performance:

Suggestions for improvements:

Any additional comments about GHOST SV