

[☞ST-17] Post-outburst observation of HBC722 in Pelican nebula

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We report the result of post-outburst observation of HBC722, the new FU Orionis-like young stellar object (also known as LkHa 188-G4 and PTF 10qpf; A. Miller et al., 2011). We have been monitoring this object since Nov. 2010 with KASINICS (Korean Astronomy and Space Institute Near Infrared Camera System) at Bohyun Optical Astronomy Observatory (BOAO).

The observations were performed two times; the first observation was conducted in Nov. 19, 24, and 25, 2010. And the second one was done in March 22 and 25, 2011. We used three filters: J, H, and Ks band. We did aperture photometry with IRAF packages and standardized the photometric result (instrumental magnitude) with 2MASS data that were used as standard stars. As a result, we have found that the brightness of the target decreased in all bands and its colors reddened: the magnitudes and colors of the target are J=10.37, H= 9.49, Ks= 8.59, J-H= 0.88, and J-Ks= 1.36 on Nov. 19, 2010. And those are J=10.81, H=9.81, Ks= 9.28, J-H= 1.00, and J-Ks= 1.53 on March 25, 2011. The previous study showed the similar decrease of brightness in J and H band except for Ks band., They were J= 10.03, H= 9.14, and Ks= 8.65 on Sept. 2010 and those were J= 10.02, H= 9.24, and Ks= 8.59 on Nov. 2010. Consequently, we can conclude that HBC722 is fading out continuously from last November to this March.

[☞ST-18] Raman-Scattered Balmer Wings in Symbiotic Stars

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Many symbiotic stars exhibit features formed through Raman scattering with hydrogen atom, which can be useful in probing the mass loss and mass transfer processes. These include Raman scattered O VI 6830, 7088, Raman scattered He II 6545, 4850, 4332. and broad wings around Balmer emission lines. In this study we investigate the basic properties of broad Balmer wings formed through Raman scattering using a Monte Carlo technique. Special attention is made on the symmetry of the wings which is expected to be broken due to asymmetric scattering cross section. In this poster, we show preliminary results.