

A possible new FUor star in NGC 7000

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We report the discovery of a strong outburst in the region of NGC 7000/IC 5070. A source of the outburst seems to be a T Tauri star located in the dark clouds between North American and Pelican Nebulae. The first designation of this object LkHA 188 G4 is given by Cohen and Kuhl (1979). The star is a member of a small group of H alpha emission stars around LkHA 188. The object is included in the Catalog of emission-line stars of the Orion population (Herbig et al. 1988) with the designation HBC 722. According to SIMBAD Astronomical Database the coordinates of the star are:

(J2000) 20 58 17.03 +43 53 43.4

The results from our photometric observations indicate that for a period of about three months (from 13 May 2010 to 16 August 2010) the star brightness increased by 3.3 mag. (R). At the same time the star has become considerably bluer. The V-R index decreased from 0.65 mag. (May) to 0.45 mag. (August). The photometric data from the period 6-16 August 2010 suggest that the star brightness rises continuously by approximately 0.04 mag. per day. Our photometric observations from 16 August 2010 give the following magnitudes:

R=13.33 and V=13.77

The magnitudes calibration of our data was carried out with respect to five stars from USNO-B1.0 Catalog.

Having in mind the rapid increase in brightness, we assume that the observed outburst is from FUor type. Such a rapid increase in brightness is observed in cases of FU Ori and V1057 Cyg. But an outburst from EXor type or an object similar to V1647 Ori are also possible. We encourage those observers interested in FUor and EXor variables to start a photometric and spectroscopic following of HBC 722. The multicolor photometric observations and high resolution spectroscopy are very important for the exact determination of the outburst type.