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# Close binary star system Cygnus X-1. Relative and absolute photometry

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Close binary star system Cygnus X-1.
The subject matter of the research is studying and conducting relative and absolute photometry of Cygnus X-1 in optic range.
Relevance: the accretion of matter in the close binaries is an effective mechanism for releasing a huge amount of energy, because of which we observe many astrophysical objects that are at the late stages of their evolution.
The task of the research work is to conduct the optical photometry of Cygnus X-1 at the Lisnyky observatory of KNU, to build and analyze the light curve in the photometry programs, compare to the AAVSO light curve chart, make calculations according to the photometry results, establish the reason for variability of Cygnus X-1.
CONCLUSIONS
Relative and absolute photometry of V1357 Cyg was done in filters:
R = 8.4; B = 10,1; I = 7.7; V = 9.3. Photometry was uploaded to AAVSO database.
The average period of light micromodulation = 8.6 min;
Calculated on the basis of the received data:
Visual, absolute and photographic magnitude of HDE 226868: m = 9,3; M = -2.4; mph = 10.1
Color temperature HDE 226868 = 5177°; C (B-V) =0.81; (R-I) = 0.7; (V-R)= 0.9.
Luminosity: L = 745 Ls; radius of the star = 37Ro; distance = 2187.8 Parsecs.
We believe that inflow fenomena on the black hole's accretion disk are the cause of the variability of Cygnus X-1.

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