

ON THE DISTANCE TO CYGNUS X-1 (HDE 226868)*

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Abstract. From U , B , V photometry of 104 stars in a field of radius $\sim 30'$ centered on the X-ray binary star Cyg X-1 (HDE 226868), we have studied the color excess $E(B-V)$ as a function of distance. Spectral types were observed *de novo* for 42 of these stars. We conclude that HDE 226868 cannot be nearer than 1 kpc, and is probably at a distance of 2.5 kpc or more. The primary component is therefore a luminous OB star of mass $\sim 30 M_{\odot}$, and the X-ray component has a minimum mass $\sim 6 M_{\odot}$.

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