A STUDY OF THE YOUNG STAR V1331 CYG IN A COMPACT STAR-FORMING REGION

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The peculiar T Tauri type star V1331 Cyg = LkH 120, located in the dark cloud Lynds 984, is a FU Orionis pre-outburst candidate (McMuldroch *et al.*, 1993). This star embedded in circumstellar bright nebulosity is also surrounded by a helix-shaped nebula originated from the star. We obtained a series of speckle images of V1331 Cyg on the standard *VBR* system on July 18-20, 1994 using the Zeiss1000 1.0 m telescope of the High Altitude Maydanak Observatory in Uzbekistan. We also used the results of Johnson's system photometry of V1331 Cyg, made simultaneously at Maydanak Observatory with a 0.6 m reflector. Images were computer processed. Surface photometry of the star and surrounding nebula was made and isophotes were constructed. Fourier analysis of light curves for V1331 Cyg has shown 36.2 day periodic process (Melnikov, priv. comm.) which could be due to the presence of a circumstellar disk. Morphologic analysis revealed a complex fine structure of nebula, consisting of many bright knots and obviously show a jet-like outflow. According to spectral observations (Chavarria, K. 1981; Penston & Keavey 1977) the line profiles of V1331 Cyg are P Cyg type only; there are no detections of anti-P Cyg profiles during the last 25 years observations. This indicates a stable mass loss (on average, $10^{-7} M_{\odot}$/yr) with mean velocities about -410 km/s.

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