

VLA OBSERVATIONS OF THE SUSPECTED HH-OBJECT GGD37

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High resolution VLA observations (1") have been made of the Cep A region, which includes a region of early star formation, possibly as young as 1000 yrs, and an adjacent nebulosity which includes the suspected HH-object GGD37. Radio continuum emission is detected from the latter, which is also situated in a region where the molecular lines due to CO have a red-shifted component with velocity 25 km s^{-1} . The results and a model for the region will be described.

THE RADIO H II REGIONS ASSOCIATED WITH CEP A

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Recent observations of Cep A at $\lambda 21 \text{ cm}$, using the Westerbork Synthesis Radio Telescope, have shown the presence of two main H II regions. One contains compact H II regions and H_2O and OH masers, and the other contains the supposed Herbig-Haro Object GGD37. The results should clear up some confusion regarding Cep A.

ON THE CONTRIBUTIONS OF THE ORION REFLECTION NEBULOSITY TO THE CONTINUOUS UV SPECTRUM OF THE HERBIG-HARO OBJECTS HH 1 AND HH 2, AND OF THE C-S STAR

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The published UV continuum spectra of the Herbig-Haro objects HH 1, HH 2, and of the environment of the Cohen-Swartz (C-S) star are severely contaminated by the light from the Orion Reflection Nebulosity (ORN). The ORN was discovered photographically by Carruthers and Opan (*Ap. J. [Letters]*, 212, L27, 1977) and extends roughly over the entire Orion constellation with a radius of 10° - 15° . HH 1

and HH2 are located about 3.5° south of its center. The UV surface brightness of the ORN in the vicinity of HH 1, 2 is approximately known from measurements with the OAO-2 satellite. Due to the spatial variations of the surface brightness of the ORN its contribution to the measured continuum fluxes of HH 1, 2 and the C-S star environment is not well known. However, the surface brightness derived from the OAO-2 measurements strongly suggest that the UV continuum found in the environment of the C-S star (Böhm and Böhm-Vitense 1982, *Ap. J. (Letters)* 263, L35) can be fully accounted by the emission from the ORN. This also explains why this continuum was observed over the full size of the IUE aperture.

The contamination of the continuous spectrum of HH 1 and HH 2 by the ORN is most important at short wavelengths ($\lambda < 1500 \text{ \AA}$). At these wavelengths the data suggest contributions to the published spectra in the order of 30-50%. At longer wavelengths ($\lambda > 1900 \text{ \AA}$) contributions of about 20% are suggested. We note that the ORN can never explain all the continuous emission from HH 1, 2 since their UV continuum did not fill the full $23'' \times 10''$ IUE aperture. More reliable determinations of the surface brightness of the ORN in the immediate vicinity of HH 1, 2 are highly desirable. This can easily be done by obtaining long duration IUE exposures in empty fields close to these objects. Without such determinations any detailed discussions on the origin of the continuous emission in HH 1, 2 are premature.

A paper presenting these results in more detail has been submitted to *Ap. J. (Letters)*.