

## REFERENCES

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## CYANOACETYLENE OBSERVATIONS OF B335

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B335 is now recognized as the smallest isolated star forming region. The detection of a Far-IR source and a bipolar flow were successful, on the other hand, the distribution of the quiet gas is poorly understood. We are trying to determine the density distribution in B335. As the first step, we have carried out HC<sub>3</sub>N (J = 5-4 and 4-3) observations of B335. The observations of the J = 5-4 line have revealed a high density core with a 30"-60" size. The Far-IR source is located just at the center of the core, and the core lies at the center of the bipolar flow. A mean hydrogen molecular density in the core of about  $5 \times 10^4 \text{ cm}^{-3}$  is derived from the line ratio J - 5-4/4-3.

## CO OBSERVATIONS OF A COMETARY GLOBULE IN IC1396

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A cometary globule in IC1396 named "comet tail 6" by Osterbrock (1957), has been observed at CO and <sup>13</sup>CO (J = 1-0) lines with a high spatial resolution, 14", with the 45-m radio telescope at the Nobeyama Radio Observatory. The resolution corresponds to a linear size of 0.05 pc at the distance of 750 pc (Matthews 1979). Two possible pre-main sequence stars, LkHα 349 and LkHα 349/c (Cohen and Kuhl 1979), associated

with small nebulosities nestle in the central part of the globule. We have obtained CO and  $^{13}\text{CO}$  spectra along NS and EW strips which cross each other at the position of LkH $\alpha$  349 and have mapped a  $1.5' \times 1.5'$  area around the globule center at  $^{13}\text{CO}$ . Results from the observations are summarized as follows:

1) It has been found that the central part of the globule is a cavity of a size of 0.4 pc (Figure 3) and no systematic motion is recognized there (Figure 1).

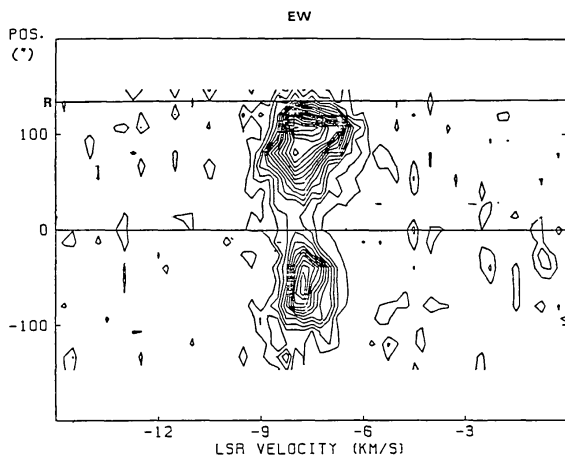


Fig. 1. A position-velocity map along EW strips for  $^{13}\text{CO}$  emission. Contours are drawn in 1 K intervals. The position of the eastern rim is indicated by "R" at the coordinate.

2) Figure 2 shows the distribution of the column density plotted along the NS and EW strips. The densest region lies 0.1 pc interior from the eastern optical rim. IC1396A (Pottasch 1958), and the extent is as narrow as 0.1 pc. This peaking seems to be due to compression of the globule by the HII region. The observed visual extinction of 3.65 mag. (Cohen and Kuhi 1979) for LkH $\alpha$  349 suggests that this star is behind the globule. The total mass of the globule is estimated to be  $120 M_{\odot}$  by assuming an appropriate geometrical model.

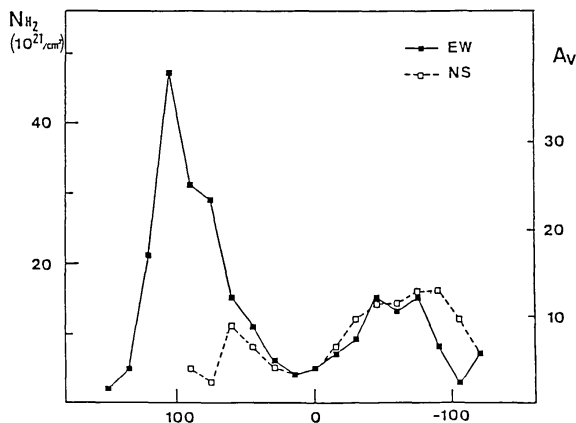


Fig. 2. The column density plotted as a function of position along NS and EW strips. The abscissa is the offset in seconds of arc with respect to the position of LkH $\alpha$  349.

3) In Figure 3, a map of the central part of the globule showing the spatial distribution of the integrated intensity of the  $^{13}\text{CO}$  emission is superposed on the optical photograph. The structure of the cen-