used as a measure of the "intensity" of 21-cm self absorption. A simple one bit autocorrelation (weak or no line = 0, strong line = 1) gave almost identical results, so the assessment of line intensity, which is difficult as shown by Levinson and Brown (1980), does not affect the autocorrelation function severely. Both power spectra showed a major peak at 0.625 reciprocal degrees, corresponding to a period in the autocorrelation function of 3.20 degrees. This corresponds to a correlation scale length of 7.8 pc.

3. CONCLUDING REMARKS

An analysis of 21-cm self absorption in the Taurus molecular complex indicates that there is a prevailing scale length of 8 pc, quite different from the value of 14 pc found for 13CO. These results, however, are similar to those obtained by Baker (1973) for 21-cm emission from much warmer atomic hydrogen in the anticenter direction, who found a typical scale size of 7 pc.

REFERENCES

Baker, P.L.: 1973, Astr. and Astrophys. 23, 81.
Kleiner, S.C., and Dickman, R.L.: 1984, Astrophys. J. 286, 255.
Levinson, F.H., and Brown, R.L.: 1980, Astrophys. J. 242, 416.
Wilson, T.L., and Minn, Y.K.: 1977, Astr. and Astrophys. 54, 933.

STAR FORMATION IN TAURUS, THE IRAS VIEW

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In the course of its short existence the IRAS database has already proved an incredibly powerful tool for studying the classification of sources -both galactic and extragalactic- in a new and very exciting way. For the first time it is now possible to employ selection criteria based purely on the infrared properties of a complete (to very low intensities) and unbiassed infrared sample - thereby eliminating the selection biases which have critically limited any such previous classifications.

The present work describes the application of such a technique to sources believed to represent different stages of star formation within the Taurus region. It involves the selection of sources from the IRAS point source catalogue (in the area RA = 4^h to 5^h; dec = +16° to +31°) on the basis purely of their infrared 'colours'. The technique has already proved very useful in isolating candidate T Tauri stars - a re-

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latively late manifestation of the star formation process. This work describes the application and extension of similar techniques to investigate the cooler-coloured sources associated (presumably) with the earlier stages of star formation, and in particular a study of their geographic locations relative both to each other and to the very narrow bounds of the T Tauri distribution.

T-TAURI STARS IN TAURUS: INFRARED ANALYSIS OF THE IRAS SAMPLE

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This paper describes further development of the study of a set of IRAS-defined T Tauri stars, located within the Taurus region (taken as the area RA = 4^h to 5^h; dec = +16° to +31°), and selected from the IRAS point-source catalogue purely on the basis of their [25 m - 12 m] and [60 m - 25 m] colours. The original selection, which is described elsewhere (Harris, 1985) was based on an analysis of the IRAS colours of the known T Tauri stars within the region (found to be tightly defined, and representing blackbody temperatures between about 200 and 300 K, and 100 and 200 K, respectively), and gave the intriguing result that the extended sample, defined *purely* by these colours, adhered strongly to the geographic clustering found previously both for the known T Tauri stars and for the (presumably very much younger) 'dense core sources'.

The present work describes the further characterisation of these colour-defined sources, in particular examining their infrared luminosities and spectral behaviour and comparing both the 'new' sources with those already known to be T Tauri stars, and the 'IRAS T Tauris' with those previously known but found not to have an IRAS counterpart.

^{13}CO(J = 1-0) OBSERVATIONS OF THE FILAMENTS IN THE ρ OPH DARK CLOUD

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The ρ Oph dark cloud is located at a distance of 160 pc and is known as a site of active formation of low-mass stars. In optical photographs a central core of a $\sim 1° \times 1°$ extent and two thin filamentary

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