

CO J = 3-2 AND 4-3 OBSERVATIONS OF MOLECULAR CLOUDS

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We report on extensive submillimetre wavelength observations in the CO J = 3-2 and 4-3 lines towards a sample of star formation regions. The observations have been obtained using the Queen Mary College Submillimetre Heterodyne Receiver at the UKIRT 3.8 m telescope. The data include observations and maps of NGC 2024, S88, W3, S140, CRL2591, NGC 2264, K3-50, G35.2-0.74, ρ Oph A, M17, W51, S68, S106, NGC 1333, DR21 and W49. Several new bipolar flow sources have been detected in NGC 2024, S88 and NGC 2264. Comparisons between the spectra in the CO J = 1-0, 2-1, 3-2 and 4-3 transitions will be discussed in terms of their excitation, in particular for the gas in the high velocity line wings, where we have attempted to estimate the densities and relative abundances of the flow material.

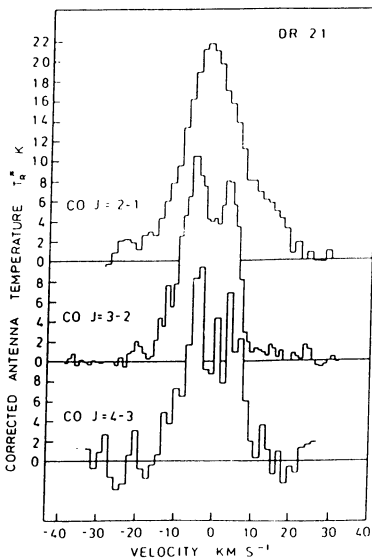


Fig. 1

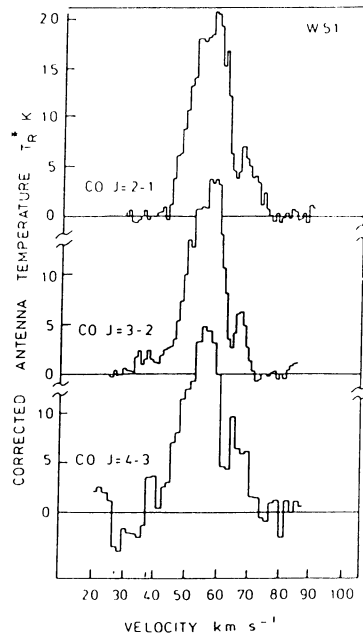


Fig. 2