

CO OBSERVATIONS OF SOUTHERN GALAXIES

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We have mapped the southern galaxies NGC 613, 1313, 1433, 1566, 1672, and 2442 in the ¹²CO(1-0) line with the SEST telescope. The sample bases on galaxies observed previously in radio continuum at the Molonglo Observatory (Harnett, 1985).

Strong CO emission has been detected from the barred galaxies NGC 613 and 2442. Surprisingly only an upper limit could be placed on CO intensity in NGC 1313. The galaxies NGC 1566 and 1672 show quite strong emission in the nucleus which is not consistent with their present reclassification as Sbc and Sb, respectively. Usually Sc galaxies have strong nuclear CO emission. The ringed galaxy NGC 1433 is the weakest in our sample, but still with sufficient signal to noise, to allow the determination of the CO velocity field.

The barred galaxies NGC 613 (Bajaja and Hummel, 1989) and 2442 show broad spectra in the nucleus and narrow, intense spectra in the dust lanes. The galaxy NGC 1672 (Sersic and Calderon, 1979) shows a conspicuous broad CO spectrum in the direction of an optically bright clump. Also the P-V plots suggest that an inner ring is seen. In the ringed galaxy NGC 1433 the CO velocity field agrees well with the results of H α interferometry (Buta, 1986).

References

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