RESUMENES/ABSTRACTS

PHYSICAL PARAMETERS IN INTERSTELLAR MASERS

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We discuss the physical conditions that can originate the very high brightness temperature masers, as the 8 km s^{-1} highly polarized maser in Orion. We present the latest observations of this peculiar source and its interpretation in terms of a proto-planetary system.

INTERSTELLAR MATTER AROUND THE WOLF-RAYET STAR HD 50896

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The neutral hydrogen distribution has been studied in the direction of the Wolf-Rayet star HD 50896. The H I observations with intermediate angular resolution (9′) shows, at low radial velocities, a cavity in the atomic gas distribution towards HD 50896. The H I minimum is aspherical, and the WR star is offset with respect to either the geometrical center of the H I void or the absolute minimum inside the cavity. These findings are discussed within the framework of the interstellar bubble theory.

MOLECULAR MATERIAL ASSOCIATED WITH THE GALACTIC SUPERNOVA REMNANT G18.8+0.3

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^{12}CO J = 1 → 0 observations toward the galactic supernova remnant G18.8+0.3 have been made with the SEST 15-m telescope. High resolution continuum observations at λ = 20 cm have also been made using the VLA. In the velocity range 9 to 15 km s^{-1} (LSR) the molecular material has a peculiar spatial distribution with respect to the SNR: it seems to engulf it. Moreover, the molecular emission is clumpy. Most of the clumps are seen elongated approximately along the highly distorted radio continuum border of G18.8+0.3. This spatial correspondence strongly suggests that G18.8+0.3 is interacting with a nearby molecular cloud.

CO IN SOUTHERN BARRED GALAXIES

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The aim of this work is to use the SEST radio telescope for the determination of the distribution and kinematics of the molecular gas, in galaxies with diameters between 5′ and 8′, through the observation of the CO lines. The six galaxies observed up to now (NGC 613, NGC 1313, NGC 1433, NGC 1566, NGC 1672, and NGC 2442) have all been classified as barred galaxies in the BGRCII. Except for NGC 1313, in all the other observed galaxies the detections had enough signal-to-noise ratio for producing contour maps.

The angular resolution of the SEST (43″ at 2.6 mm), does not permit to study the detailed correlation with the visible structures in the galaxies (arms, nucleus, bar, etc.). We can, however, determine