

AN HI SEARCH FOR M81 GROUP DWARF GALAXIES

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The M81 group has great advantages for dwarf galaxy studies: it has about three times the dwarf content of the Local Group but is at only about a quarter of the Virgo cluster distance. We searched for HI in 23 optically selected dwarf members and possible members of the M81 group with the Nançay decimetric radio telescope in the velocity range of -529 to 1826 km s^{-1} with considerably better sensitivity (2–4 mJy rms.) than previous surveys. Half the objects observed are irregular dwarfs, expected to be HI-rich and detectable at Nançay if at the distance of the M81 group (4 Mpc).

Only three objects (Kar 1N, UGC 4998 and UGC 5658) were detected, and their high radial velocities (between 600 and 1150 km s^{-1}) show them to lie *behind* the M81 group. The unexpectedly low detection rate is likely due to confusion with strong foreground (Galactic) as well as local (M81 group) HI lines: The mean redshift of the M81 group is $\langle V \rangle = 95 \text{ km s}^{-1}$, while Galactic HI emission typically dominates in the range $-150 \leq V \leq 115 \text{ km s}^{-1}$, and the local extended HI envelope in the immediate vicinity of M81 dominates at $-280 \leq V \leq 355 \text{ km s}^{-1}$.

HI emission of low velocity HI-rich members of the M81 group may thus still remain hidden among strong Galactic and M81 group HI lines – optical redshifts are required to determine group memberships (van Driel et al. 1998, *A&AS*, **127**, 1).