SiO MASERS IN THE STAR FORMING REGIONS W51 IRS2 AND Sgr B2 MD5

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The maser emission of the J = 1-0 lines of SiO in vibrationally excited states has been detected in two regions of massive star formation, W51 IRS2 and Sgr B2 MD5. The SiO masers apparently coincide with strong H_2O masers in each source within the uncertainties of $<5''$. Their velocity ranges fall within those of the nearest H_2O masers (Figure 1). In W51 IRS2 the maser emission is observed only in the v = 2 state, and the upper limit of the v = 1 line (3σ) is 1/15th of the v = 2 line intensity. The v = 1 emission found in Sgr B2 MD5 is five times stronger than the marginally detected v = 2 emission (Figure 2). Their luminosities are comparable to those from the corresponding maser in Orion.

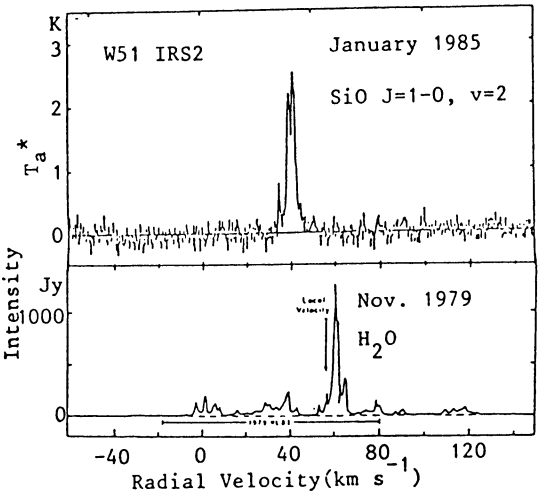

Fig. 1. SiO maser from W51 IRS2. The velocity resolution is 0.3 km s^{-1}. α = 19:21:22.6s, δ = 14:25:12" (1950) H_2O maser profile (Schneps *et al.* (1981).

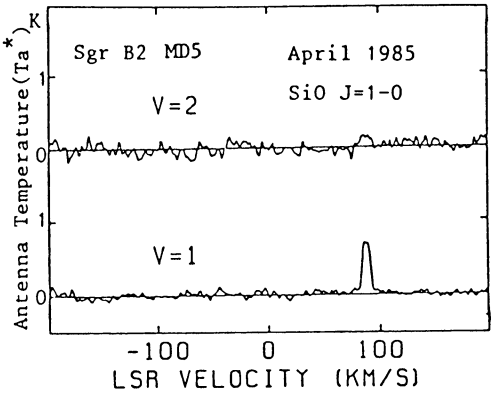

Fig. 2. SiO maser emission from Sgr B2. The velocity resolution is 1.7 km s^{-1}. α = 17:44:10.5s, δ = -28:22:03" (1950).

https://doi.org/10.1017/S0074180900095358 Published online by Cambridge University Press