

N14a

SiO maser lines survey of late-type stars in the Galaxy

B.W.Jiang(GUAS, NRO), S.Deguchi(NRO), B.Ramesh(NRO) and Y.Nakada(KO)

The observations at SiO maser lines (^{28}SiO J=1-0, $\nu=1$ and $\nu=2$, ^{29}SiO J=1-0 $\nu=0$) were done in 1996 May towards 119 IRAS PSC sources that are candidates for AGB stars by using the Nobeyama 45 m antenna. 21 new ^{28}SiO and 1 new ^{29}SiO maser sources are detected. Combining the previous SiO maser line survey results in the bulge, inner disk and outer disk by the same observational system, we made a comparison between the samples in the bulge, inner disk and outer disk. Though under quite similar selection criteria which mainly laid on the IRAS observations, the samples in the outer disk, inner disk and bulge are still different statistically in IRAS features such as the variability and the color. The outer disk sample stars are not so red or variable as those in the inner disk and bulge. But the SiO maser spectra do not exhibit clear differences in profiles between the groups. However, the SiO maser detection is much different, which is 31%, 51% ! and 66% for the outer disk, inner disk and bulge samples respectively. According to the near-infrared observations, the main difference in the detection rate could be caused by that in the proportion of stars with C-rich circumstellar envelopes, i.e. in the outer disk sample there are more C-rich stars than in the bulge. Therefore in the family of AGB stars the members are different with the Galactic locations.