

## Short Time-Scale Monitoring of SiO Maser Sources

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With an aim to monitor the SiO maser emission from Mira variable stars at relatively short time intervals, starting in January 1993 dual polarization observations were done using the Raman Research Institute's 10.4 m millimeter wave telescope. Maser emission was observed at 86.243 GHz in the  $\nu = 1, J = 2-1$  transition of SiO for fifteen stars at about two weeks interval. This paper is a preliminary report of these observations from January–May 1993. The details about the observational system and method are given (Patel N. A. 1990, Ph.D. Thesis, Indian Institute of Science, Bangalore and Patel N. A., Joseph A., Ganesan R. 1992 *J. Astrophys. Astr.* 13, 241). The system temperature (DSB) in each polarization on a good day was about 600 K, leading to an RMS of 0.11 K for an integration of 600 sec.

The sources selected were TX Cam, R Leo, VY Cma, OMC-1, VX Sgr, RX Boo, U Ori, U Her, R Cas, R Aqr, Omicron Cet, Mu Cep, W Hya, R Cnc, S Crb, Chi Cyg, R Dor, S Per, WX Psc, AH Sco, NML Tau and RT Vir. Here we report only on four sources R Leo, RX Boo, TX Cam, and U Ori.

Generally the line profiles, width and line centres did not vary much in the monitoring interval. Our observations agree with previous observations of R Leo and TX Cam (Martinez A., Bujarrabal V., Alcolea J. 1988, *Astr. Astrophys. Suppl.*, 74, 273). For RX Boo which is a SRB star the peak in SiO maser emission is seen at phase = 0.08. The rise in antenna temperature in about one day is a factor of 3 (more than 6 sigma). Values of parallactic angles also indicate substantial changes in polarization over the same time interval. A second maximum is seen at phase 0.33, curiously enough a quarter of the period after the first one. In both Rx Boo and TX Cam close to 100% linear polarization was seen on some days. In U Ori the SiO maser maximum seems to occur at phase = 0.18 and variations in both intensity and polarization with phase are indicated by observations.

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