

[SF-06] Maser and Molecular Line Surveys of 6.7GHz ClassII Methanol Maser Sources

Hyunwoo Kang¹, Kee-Tae Kim¹, Chungsik Oh¹, JaeHan Bae^{1,2}, Soyoung Yun¹,
and Yong-sun Park²

¹*Korea Astronomy and Space Science Institute, Daejeon 305-348, Korea,*

²*Astronomy Program, Department of Physics and Astronomy*

Methanol maser sources are believed to represent the earliest evolutionary stage of massive star formation. Pandian et al. (2007) recently made a very sensitive blind survey of 6.7GHz ClassII methanol maser towards the Galactic midplane ($35^\circ < l < 55^\circ$ & $|b| < 0.5^\circ$) and found 86 maser sources. We carried out 22GHz H₂O and 44.0 GHz CH₃OH maser line surveys of them with KVN 21m and various (CO (2-1), ¹³CO (2-1), ¹³CO (1-0), C¹⁸O (2-1), CS (2-1), HCO⁺ (3-2) and HCN (3-2)) molecular line surveys with SRAO 6m and TRAO 14m. we will present the preliminary results and discuss the implications for massive star formation.

[SF-07] Abundances of HCN and HNC in the Red MSX Sources

Yunhee Choi¹, Jeong-Eun Lee¹, and Kee-Tae Kim²

¹*ARCSEC, Sejong University,* ²*KASI*

We have studied the abundance ratio of HNC and HCN toward the Red MSX Sources (RMS) using HCN ($J=1-0$), HNC ($J=1-0$), H¹³CN ($J=1-0$), HN¹³C ($J=1-0$), and N₂H⁺ ($J=1-0$) lines observed with the Mopra 22 m radio telescope. The RMS are massive young stellar objects identified by the MSX satellite data combined with the 2MASS data. HCN and HNC (a geometrical isomer of HCN) are among the most basic interstellar molecules. According to our analysis, the column density of HCN is found to be correlated with that of HNC. Additionally, the [HNC]/[HCN] abundance ratio is sensitive to the core temperature because HNC is depleted in high temperature regions. This result is consistent with the previous results seen in low mass starless or protostellar cores.