

**[KVN-01] Candidates for the young stellar outflows:
Water and Methanol masers from young stellar objects**

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We conducted simultaneous 22GHz water maser and 44GHz class I methanol maser surveys of newly-identified 282 H₂ emission features from the 2.122 μ m H₂ narrowband image survey in the Galactic plane (UWISH2 project) using Korea VLBI Network (KVN) 21-m radio telescopes. We detected 16 and 13 new water and methanol maser sources, respectively. This result indicates that at least \sim 5% of the H₂ emission features originate from young stellar objects (YSOs) that are in the right physical condition to produce the water and methanol masers. The masers are closely related to the current outflow activities in the Galactic plane. The power sources of these 23 diffused/collimated H₂ emission features (six sources are detected for both masers) are likely to be intermediate- to high-mass YSOs, based on a comparison with the maser luminosities of other well-studied YSOs. Both maser velocities are mostly close to their own systemic velocities within 5 km/s, even though water masers generally show larger variabilities in the line intensities, velocities, and shapes than methanol masers. We also discovered three new water maser sources with high-velocity components: \sim 25 km/s red-shifted CMHO019, \sim 50 km/s blue-shifted CMHO132, and \sim 120 km/s blue-shifted CMHO182. In particular, we propose that the dominant blue-shifted water maser of CHMO182 could become a unique laboratory for the study of high-mass stellar jet and their accelerations.

**[KVN-02] Time Monitoring Observations of SiO and H₂O Masers
Using the KVN**

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We present the interim results of simultaneous time monitoring observations of SiO $v=1, 2, J=1-0$, ²⁹SiO $v=0, J=1-0$, and H₂O 6₁₆-5₂₃ maser lines toward about 60 relatively strong SiO and/or H₂O maser sources using the single dishes of the Korean VLBI Network from 2009 September to 2012 June. These monitoring sources are composed of representative semiregular variables, Miras, water fountain sources, preplanetary nebulae and SiO maser sources of star forming regions etc. The variations of intensity ratios between SiO and H₂O masers and velocity structures are investigated according to stellar optical phases and observational epochs. Several individual sources which show an interesting feature will be presented here.