

## **EVN observations of the high-frequency methanol masers**

The launching mechanism of jets remains one of the fundamental challenges in astrophysics. We are presently carrying on a campaign of 22 GHz water maser VLBI observations to prove on a robust statistical ground that magnetohydrodynamic disk winds represent the common launching mechanism of protostellar jets. Several methanol maser transitions can provide complementary information to the 22 GHz water masers: 1) the radiatively-excited (and slow moving) 6.7, 85.6, 107.0 and 108.9 GHz masers trace the disk/envelope environment; 2) the collisionally-excited (and fast moving) 25, 44.1 and 95.2 GHz masers emerge in shocks along the jet/outflow. We plan EVN observations of the high-frequency (25-109 GHz) methanol masers with the tri-band receivers. By recording simultaneously at K- (centered at ~22 GHz), Q- (~44 GHz) and W-bands (~100 GHz), the tri-band receivers are the ideal instruments to observe both the 22 GHz water and high-frequency methanol masers at the same time, permitting a reliable comparison of the different emissions net of variability effects.

**Author:** MOSCADELLI, Luca (Istituto Nazionale di Astrofisica (INAF))

**Presenter:** MOSCADELLI, Luca (Istituto Nazionale di Astrofisica (INAF))