

Workshop

Stellar End Products: The Low Mass - High Mass Connection

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Title:

Trigonometric parallax distance and kinematics of the fastest water fountain source

Abstract:

Water fountains are evolved stars with collimated and high-velocity outflows traced by water masers. Our observed target, IRAS 18113-2503, is the water fountain with the fastest jets known and has the largest velocity dispersion of masers in each lobe. Here, we present its parallax distance (~ 9 kpc) and maser kinematics yielded by VLBI astrometry with the Japanese VERA network. We find maser proper motions of 6.2–8.5 mas/yr, corresponding to outflow velocities of 300–420 km/s. We discuss the stellar properties, evolution and motion in the Milky Way, and address the variability of the masers.