

Abstract Submitted
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Disk-outflow models as applied to high mass star forming regions through methanol and water maser observations HONTAS FARMER, Northern Illinois University — As the recent publication by Breen et al (2013) found Class II methanol masers are exclusively associated with high mass star forming regions. Based on the positions of the Class I and II methanol and H₂O masers, UC H II regions and 4.5 μm infrared sources, and the center velocities (v_{LSR}) of the Class I methanol and H₂O masers, compared to the v_{LSR} of the Class II methanol masers, we propose three disk-outflow models that may be traced by methanol masers. In all three models, we have located the Class II methanol maser near the protostar, and the Class I methanol maser in the outflow, as is known from observations during the last twenty years. In our first model, the H₂O masers trace the linear extent of the outflow. In our second model, the H₂O masers are located in a circumstellar disk. In our third model, the H₂O masers are located in one or more outflows near the terminating shock where the outflow impacts the ambient interstellar medium. Together, these models reiterate the utility of coordinated high angular resolution observations of high mass star forming regions in maser lines and associated star formation tracers.

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