EXPLORING SHOCK CHEMISTRY IN ORION-KL WITH MID-J MOLECULAR TRANSITIONS

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New receiver technology can allow us to probe high energy shock chemistry using ground-based telescopes. We have mapped HCN ($J = 8 \rightarrow 7$) and HCO^+ ($J = 8 \rightarrow 7$) emission across the $1'$ x $1'$ Orion-KL region using the ALMA Band 9 receiver at the Submillimeter Telescope of the Arizona Radio Observatory. A map of the SiO ($J = 16 \rightarrow 15$) emission is also currently underway. The mid-J HCN and HCO^+ emission have very broad line widths that vary with position, which suggest an association with the high velocity globules produced by the explosive outflow in this region. The emission points to densities greater than 4×10^8 cm^{-3} in the shock material. Additionally, the central velocity of the molecular lines changes across the nebula, eluding to interesting globular structures containing the molecular material.