

SUBLIMATION OF LABORATORY ICES MILLIMETER/SUBMILLIMETER EXPERIMENT (SubLIME): IDENTIFICATION AND QUANTIFICATION OF ORGANIC SPECIES FROM A UV PHOTOLYZED METHANOL ICE

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Millimeter/submillimeter spectroscopy is a powerful analytical technique for identifying the components of complex gas mixtures. In this work, millimeter/submillimeter spectroscopy has been utilized to detect and quantify organic species sublimated from a UV photolyzed methanol ice. Eleven species were uniquely identified by their structure-specific pure rotational transitions, and the integrated intensities of their rotational transitions were used to determine their rotational temperatures and gas densities by a rotation diagram analysis. This talk will outline the experimental design and the latest results with SubLIME. The abundance ratios of detected organic species will also be compared to those detected in star-forming regions and cometary comae.