

## ROTATIONAL SPECTROSCOPY AS A TOOL FOR STRUCTURE-SPECIFIC IDENTIFICATION OF PRODUCTS OF UV-PHOTOLYZED COSMIC ICE ANALOGUES

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Cosmic ice analogue experiments are an important aspect of astrochemistry because they help researchers construct the chemical pathways leading to molecules found in young stellar objects, comets, and meteorites. Decades of cosmic ice experiments have demonstrated the formation of various organics and how ice composition is affected by UV photons and temperature. The ice chemistry can be challenging to elucidate, and structure-specific techniques are required to uniquely identify products. We present the Sublimation Laboratory Ice Millimeter/submillimeter Experiment (SubLIME), which uses rotational spectroscopy to complement previous laboratory ice studies. Using this technique, we can detect a wide range of products, including structural and conformational isomers, of UV-photolyzed ice samples from a single spectrum. Furthermore, this technique can be used to model the observational spectra of pre- and protostellar cores and cometary comae. We will present the SubLIME setup and new spectroscopic results of sublimated UV-photolyzed ice samples containing water (H<sub>2</sub>O) and carbon monoxide (CO).