SUBMILLIMETER SPECTROSCOPIC DIAGNOSTICS IN A SEMICONDUCTOR PROCESSING PLASMA

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Millimeter and submillimeter rotational spectroscopy was used to characterize and measure the abundances of compounds in a semiconductor processing plasma. Plasmas were generated using flow mixtures of Ar, C_4F_8, and O_2 in a chamber with quartz windows for submillimeter wave transmission. Species of interest included the plasma products CF, CF_2, COF_2, and CO. Abundances as a function of flow mixtures and pressures as well as rf drive levels will be presented.