NEW RESULTS FROM A SPECTRAL-LINE SURVEY OF Sgr B2(N): INSIGHT INTO GAS-PHASE PROCESSES

D. T. HALFEN and L. M. ZIURYS, *Department of Chemistry, Department of Astronomy, and Steward Observatory, University of Arizona, Tucson, AZ 85721*.

A confusion-limited spectral line survey of Sgr B2(N) at 3, 2, and 1 mm (68 - 116, 130 - 172, and 210 - 280 GHz) using the Kitt Peak 12 m and the Submillimeter Telescope (SMT) of the Arizona Radio Observatory has recently been completed. While this data is still being analyzed, interesting new results have already been found. For example, a study of the spectra of CH_2NH and CH_3NH_2 has shown that these species, previously thought to be closely-related synthetically, vary greatly in rotational temperature and distribution in Sgr B2(N). Thus the hypothesized grain synthesis of CH_3NH_2 from CH_2NH is improbable, and neutral-neutral reactions are the most likely source of these species. These data, as well as other results, also provide insight into the physical structure of the Sgr B2(N) region.