

A SEARCH FOR INTERSTELLAR UREA WITH CARMA AND THE IRAM 30 M

H.-L. KUO, L. E. SNYDER, D. N. FRIEDEL, L. W. LOONEY, *Department of Astronomy, University of Illinois at Urbana-Champaign*; B. J. McCALL, *Departments of Chemistry and Astronomy, University of Illinois at Urbana-Champaign, Urbana IL 61801*; A. J. REMIJAN, *NRAO, Charlottesville VA 22903*; F.J. LOVAS, *Optical Technology Division, NIST, Gaithersburg MD 20899-8441*; J. M. HOLLIS, *NASA/GSFC, Code 606, Greenbelt MD 20771*.

Urea, a molecule discovered in human urine by H. M Rouelle in 1773, also plays a significant role in prebiotic chemistry. Previous BIMA observations have suggested that interstellar urea $[(\text{NH}_2)_2\text{CO}]$ is a compact hot core molecule such as the other large molecules methyl formate and acetic acid. We have conducted an extensive search for urea toward the high mass hot molecular core Sgr B2(N-LMH) using the CARMA array and the IRAM 30 m telescope. The resolution at 1 mm enables favorable coupling of source size and synthesized beam size, which was found to be essential for flux measurements and detection limits of weak signals. The $2.5'' \times 2''$ synthesized beam of CARMA significantly resolves out the extended emission and reveals the weak lines that were previously blended with nearby transitions. Our analysis indicates that these lines are likely to be urea since they are now less contaminated, the resulting observed line frequencies are coincident with a set of overlapping connecting urea lines, and the observed line intensities are consistent with expected line strengths of urea. The new IRAM 30 m urea data at 2 mm help confirm the CARMA urea identifications.