

ROTATIONAL SPECTRA OF UREA IN ITS GROUND AND FIRST EXCITED VIBRATIONAL STATES

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Urea is an important terrestrial bio-molecule, which has been tentatively detected in the interstellar medium ^a. To match the much improved range and sensitivities of modern sub-millimeter telescopes a broad laboratory assay of rotational transitions needs to be recorded in order to aid in the definitive identification of this molecule. This paper focuses on the spectroscopic assignment of the rotational transitions of urea in the 207-500 GHz range which belong to its ground and first excited vibrational states.

^aRemijan, A.J., L.E. Snyder, B.A. McGuire, H.-L. Kuo, L.W. Looney, D.N. Friedel, G.Y. Golubiatnikov, F.J. Lovas, V.V. Ilyushin, E.A. Alekseev, S.F. Dyubko, B.J. McCall, and J.M. Hollis, Observational Results of a Multi-Telescope Campaign in Search of Interstellar Urea [NH₂CO]. *The Astrophysical Journal*, 2014. 783(2): p. 77