THE ANALYSIS OF ACETONITRILE (CH_3CN) USING 3-D SUBMILLIMETER SPECTROSCOPY

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We present our analysis of acetonitrile in the 550-650 GHz region using a previously reported experimental spectroscopic approach. This method makes possible the calculation of lower state energy levels and transition strengths without the need for spectral assignment. We produce results both in the standard catalog format (frequency, line strength and lower state energy) as well as a point by point fit which allows the user to predict the complete spectrum at an arbitrary temperature. This technique has been successfully[a] used in the analysis of astronomical data.

[a] S. Fortman, J. McMillan, C. Neese, S. Randall, and A. Remijan, J. Mol. Spectrosc. 280, 11 (2012).