RE-EXAMINATION OF THE ROTATIONAL SPECTRUM OF METHYL TERT-BUTYL ETHER

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Methyl tert-butyl ether is a gasoline additive and a water pollutant. Its rotational spectrum was measured from 26.5 – 40 GHz using Chirped-Pulse Fourier Transform Microwave Spectroscopy. Measurements were conducted at low temperature via supersonic expansion and room temperature via static cell. The molecule was previous reported in Suenram et. al 1997 in a range of 9 – 18.6 GHz. This work expands that fit and converts it to the Rho Axis Method utilizing the program RAM36. The improved ground torsional state measurements as well as the room temperature data allowed for tentative assignments of torsionally excited transitions.