THE ROTATIONAL SPECTRUM OF TERTIARY-BUTYL ALCOHOL

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Tertiary-butyl alcohol is a nearly spherical rotor for which the internal rotation axis of the *t*-butyl group is close to the c molecular axis in the *ac* plane. Methyl group torsional spittings are not observed in the ground state. Its 8 to 40 GHz rotational spectrum was reported at this meeting by Valenzuela and Woods in 1974[b] and in more detail in 1975[c]. The parameters derived at that time from a fit to the E states with $J, K \leq 20$[d] have provided the basis for extending the measurements to > 500 GHz. The combined data set extends to $J, K > 50$ and is fit with the program SPFIT[e] using a common set of parameters for both the A and E states. The general features of the spectrum and the fitting procedure will be described. The resulting molecular constants and their interpretation will be discussed.

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[b] E.A. Valenzuela, and R. C. Woods, Abstract MF6, International Symposium on Molecular Spectroscopy, Columbus, OH, 1974

[c] E.A. Valenzuela, and R. C. Woods, Abstract RG15, International Symposium on Molecular Spectroscopy, Columbus, OH, 1975

[d] E.A. Valenzuela, Ph.D. Thesis, University of Wisconsin-Madison, 1975.

[e] H. M. Pickett, J. Mol. Spectrosc. 148 (1991) 271-377.