

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 splittings 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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^bE.A. Valenzuela, and R. C. Woods, Abstract MF6, International Symposium on Molecular Spectroscopy, Columbus, OH, 1974

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^dE.A. Valenzuela, Ph.D. Thesis, University of Wisconsin-Madison, 1975.

^eH. M. Pickett, *J. Mol. Spectrosc.* 148 (1991) 271-377.