MICROWAVE SPECTROSCOPY OF *TRANS*-ETHYL METHYL ETHER IN THE TORSIONALLY EXCITED STATE 2

NORIMICHI MORI, TAKANORI MATSUI, KAORI KOBAYASHI, SHOZO TSUNEKAWA, *Department of Physics, University of Toyama, 3190 Gofuku, Toyama, 930-8555 Japan*; and NOBUKIMI OHASHI, *Kanazawa University, Japan*.

In *trans*-ethyl methyl ether, there are two inequivalent methyl internal rotors. One is bonded to the oxygen atom and the other is bonded to the carbon atom. Last year we reported its microwave spectrum in its torsionally excited state related to the methyl group bonded to the oxygen atom. In addition, the lowest vibrational state or skeletal torsionally excited state was successfully assigned and analyzed. This year we report the results of the torsionally excited state related to the carbon-bonded methyl group. The analysis was carried out based on Hougen's tunneling matrix formulation considering two methyl groups.