"SUPERCOMBINATION DIFFERENCIES" AS THE METHOD OF DETERMINATION OF A_1–A_2 SPLITTINGS IN THE GROUND VIBRATIONAL STATES OF SYMMETRIC TOP MOLECULES: CHD_3 MOLECULE

O. N. ULENIKOV, G. A. ONOPENKO, N. E. TYABAEVA, *Tomsk State University, Tomsk, Russia*; S. ALANKO, M. KOIVUSAARI, AND R. ANTTILA, *University of Oulu, Finland*.

"Supercombination differencies" method was derived in order to determine the A_1–A_2 (K=3) ground state splittings in symmetric top molecules from their infrared spectra, and was applied to study of CHD_3 molecule on the base of high resolution Fourier transform spectra of its 12 absorption bands. Possibility of simultaneous determination of ϵ and h_3 ambiguous parameters of Watson's ambiguity theory is discussed. It is shown that this problem can be positively solved on the base of analysis of high resolution rotational structure of the ν_5 band. New set of ground state energies was determined, which allowed us to explain some earlier unexplained peculiarities in infrared spectra of CHD_3.