

“SUPERCOMBINATION DIFFERENCIES” AS THE METHOD OF DETERMINATION OF  $A_1-A_2$  SPLITTINGS IN THE GROUND VIBRATIONAL STATES OF SYMMETRIC TOP MOLECULES:  $\text{CHD}_3$  MOLECULE

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“Supercombination differences” 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  $\text{CHD}_3$  molecule on the base of high resolution Fourier transform spectra of its 12 absorption bands. Possibility of simultaneous determination of  $\epsilon$  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  $\nu_5$  band. New set of ground state energies was determined, which allowed us to explain some earlier unexplained peculiarities in infrared spectra of  $\text{CHD}_3$ .