

MICROWAVE AND FIR SPECTROSCOPY OF DIMETHYLSULFIDE IN THE GROUND, FIRST AND SECOND EXCITED TORSIONAL STATES

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A new study ^a of the dimethylsulfide ((CH₃)₂S) spectrum is reported. The new measurements have been carried out using the Kharkiv spectrometer in the Institute of Radio Astronomy of NASU (Ukraine) and using the Lille spectrometer in the PhLAM laboratory (France). The new millimeter and submillimeter wave measurements cover the frequency range from 49 GHz to 660 GHz. The rotational transitions belonging to the three lowest torsional states of the molecule as well as the new assignments in the FIR torsional band (AILES beamline of the synchrotron SOLEIL) and the microwave data available in the literature ^b have been analyzed using recently developed model for the molecules with two equivalent methyl rotors and C_{2v} symmetry at equilibrium (PAM_C2v_2tops program)^c. In the talk the details of this new study will be discussed.

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^bA. Jabri, V. Van, H. V. L. Nguyen, H. Mouhib, F. Kwabia Tchana, L. Manceron, W. Stahl, I. Kleiner, A&A 589, A127 (2016).

^cIlyushin V. V., Hougen J. T. J. Mol. Spectrosc. 289 (2013) 41-49.