

THE MICROWAVE SPECTROSCOPY OF CD₃SH

KAORI KOBAYASHI, SHOZO TSUNEKAWA, *Department of Physics, University of Toyama, Toyama, Japan*; NOBUKIMI OHASHI, *Kanazawa University, Kanazawa, Japan*.

Methyl mercaptan (CH₃SH) is a sulfur-containing interstellar molecule, first identified in Sgr B2. ^a Although the abundance of methyl mercaptan was not too high compared with methanol, the identification of CD₃OH towards the IRAS 16293-2422 stimulated our microwave study of CD₃SH. Deuterium fractionation may be possible for the methyl mercaptan molecule. There are many laboratory microwave spectroscopic results on the normal species but the studies on this isotopolog is quite limited. We have observed the spectra of CD₃SH in the 12-240 GHz region without gap. The pure rotational transitions in the ground and first methyl torsional excited states were assigned. We applied pseudo-PAM Hamiltonian to analyze these transitions. We will report the status of the analysis.

^aR. A. Linke, M. A. Frerking, and P. Thaddeus, *Astrophys. J.* **234**, L139 (1979).