FAST SCAN MILLIMETER-WAVE SPECTRA OF ETHYLENE OXIDE AND METHYL MERCAPTAN

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The new Fast Scan Submillimeter Spectroscopic Technique (FASSST) has been utilized to take the rotational spectra of ethylene oxide and methyl mercaptan in the frequency range 260-360 GHz. This technique uses a voltage tunable Backward Wave Oscillator with fast scan and optical calibration methods. The newly taken spectra of both of these molecules have been combined with previous laboratory data and analyzed. Ethylene oxide, a newly discovered interstellar molecule, is a rigid asymmetric top and can be analyzed by standard techniques. Methyl mercaptan, a three-fold internal rotor, has been treated by the internal axis method.