THE FAST SCAN SUBMILLIMETER SPECTROSCOPIC TECHNIQUE (FASSST): A NEW ANALYTICAL AND SCIENTIFIC TOOL

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The newly designed Fast Scan Submillimeter Wave Spectrometer uses a voltage tunable Backward Wave Oscillator (BWO), a fast scan, and optical calibration methods. This technique makes it possible to record the spectra of large, heavy molecules like chlorobenzene and molecules with internal rotation including methyl formate and acetone over wide spectral regions. Sulfur dioxide has been used as a calibration standard. FASSST helps make it easier to recognize patterns of rotational absorption lines in the microwave spectrum by providing single scan recordings of wide spectral regions quickly. Due to its speed, its extremely broad region of coverage, its high resolution and its high sensitivity FASSST is expected to be an excellent tool for qualitative and quantitative analysis in the field of analytical chemistry.