# INTENSITIES IN THE ROTATIONAL-TORSIONAL SPECTRUM OF METHANOL

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Traditionally, intensities of rotational spectra are calculated rather than measured. Dipole moments (accurately calculated from Stark Effect measurements) and spectroscopic analyses of the rotational spectra (to define the wavefunctions) underlie these calculated intensities. However, the suitability of this approach for molecules with internal motion, especially if the rotational-torsional spectroscopic analysis is semi-empirical, is less clear. An astrophysically important example is methanol.

We have recently taken intensity calibrated methanol data in the 560-650 GHz region and compared our experimental results with calculated intensities. Several trends of intensity differences stand out, with some nearing 50%.