

LINE MIXING IN THE TRIAD OF $^{12}\text{CH}_3\text{D}$

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In prior papers in this session, our multispectrum nonlinear least squares fits to experimental CH_3D spectra were described. For the triad of CH_3D the off-diagonal relaxation matrix element coefficients of some of the $K'' = 3$ doublets for $J'' = 5$ to 15 were measured for self-broadening. The fits derived the off-diagonal matrix element coefficients directly rather than using the Rosenkrantz approximation. These coefficients were derived simultaneously with the positions, intensities, widths and shifts of all the surrounding spectral lines. For $K'' = 6, 9$, etc. and for N_2 -broadening the spectral lines were too weak to detect the mixing in these spectra. Line mixing was not strong enough to be measured for any other lines.