STATISTICAL DISTRIBUTION OF DILUTION FACTORS IN $SCCl_2$

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Intramolecular vibrational energy redistribution (IVR) allows for excitation energy to "flow" to other vibrational modes. The dilution factor is one measure of IVR. Stimulated emission pumping (SEP) spectra at $0.3cm^{-1}$ resolution from several vibrational states of both the $\tilde{A}$ state and $\tilde{B}$ state of thiophosgene ($SCCl_2$) are dumped to the 7,000 cm^{-1} to 10,000 cm^{-1} region on the $\tilde{X}$ state. These SEP spectra are then analyzed using autocorrelation. In addition, simulated spectra are used for comparison of the data against two different models of the statistical distribution of dilution factors.