STATE-TO-FIELD VIBRATIONAL ENERGY TRANSFER FROM $S_1$ PARA-DIFLUOROBENZENE IN COLLISIONS WITH SEVERAL INERT GAS PARTNERS.


State-to-field vibrational energy transfer (VET) from several levels within the $S_1 (^1B_{2u})$ manifold of para-Difluorobenzene (pDFB) vapor at 300 K in collisions with a series of gases is currently being examined. Vibrational relaxation by collisions with He, Ne, Ar, Kr, and Xe from three initial levels with vibrational energies ranging to 1634 cm$^{-1}$ is probed. The resulting fluorescence spectra allow for the determination of absolute rate constants and cross sections for the collisional transfer of vibrational energy into the surrounding $S_1$ vibronic field of states.