IVR SCALING OF THE INTERNAL ROTOR

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It is widely known that the presence of an internal rotation (eg methyl rotor) will enhance IVR rate for local modes in close proximity. We utilize a simple 2-D model to demonstrate the enhancement in IVR between a coupled Morse Oscillator/Hindered Rotor system. In particular, we show that this enhancement is due to a peak in the effective density of states when the energy in the rotor degree of freedom lies at or just above the barrier height. We extend the model to show similar behavior for the case of methanol.