Phase-Space Trajectories and Transition Probabilities of Driven Anharmonic Oscillators RYAN SAYER, JEAN-FRANCOIS VAN HUELE, Brigham Young University — We model the interaction of diatomic molecules with radiation by studying the time evolution of Morse oscillators subjected to a dipole electric field. A Lie algebra method allows us to find expectation values of position and momentum as well as transition probabilities as a function of time. We study the molecular response as a function of the shape, frequency, and duration of the pulse and evaluate the method based on internal consistency and practicality.

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