

Abstract: Thematically, the work pursues a means of numerical description of anharmonic molecular vibrations regarding vibronic coupling. The main concern is with the possibility of replacing motion in adiabatic anharmonic potential with a set of vibronically interacting harmonic potentials. The work initially provides an accurately tested implementation of a numerical method for finding stationary states in anharmonic potentials. And mainly, there is included a thorough discussion of how well the spectrum and states of the vibranically coupled model correspond to the adiabatic approximation of the same model.