SU(2) COHERENT STATE PATH INTEGRAL INVESTIGATION OF THE HOLSTEIN DIMER

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9.7 cm

The $SU(2)$ coherent state path integral is used to investigate the partition function of the Holstein dimer. The $SU(2)$ coherent state path integral takes naturally into account the dynamical symmetry of the model. Ground-state energy, the number of phonons and the average value of phonon coordinate are calculated as functions of parameters of the Hamiltonian. Renormalizations of the phonon frequency and electron hopping for bounding and antibounding states are considered. Comparison of the results obtained with the adiabatic and nonadiabatic limits is performed.

13.4 cm

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