The eigenenergies of the wave function through the non-variational Galerkin-B-spline approach

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Abstract

The non-variational Galerkin-B-spline method has been applied to the solution of the Schrödinger equation for the vibration and rotation bound states of diatomic molecules. This method allows the construction of the full Hamiltonian matrix of relatively modest size. The eigenspectra obtained are compared with the analytic and modified shifted 1/N expansion cases.

Keywords : B-spline; Variational; Galerkin; Wave function; Eigenenergies.

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