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Page

The Hypervirial-Padé Summation Method Applied to the Anharmonic Oscillator

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Abstract: The energy eigenvalues of the anharmonic oscillator characterized by the cubic potential for various eigenstates are determined within the framework of the hypervirial-Padé summation method. For this purpose the E[3, 3] and E[3, 4] Padé approximants are formed to the energy perturbation series and given the energy eigenvalues up to fourth order in terms of the anharmonicity parameter ●.

Key Words: Anharmonic oscillator, Schrodinger equation, hypervirial theorems, Padé summation method.