ON THE HARMONIC OSCILLLATOR REPRESENTATION FOR A SMALL OSCILLLATOR RADIUS

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S u m m a r y

The use of the harmonic oscillator basis in nuclear problems for small values of oscillator radius r_0 is studied by the example of a short-range (Gauss) potential. Solutions obtained in the Algebraic Version of the Resonating Group Method (AVRGM) are analyzed and compared to a numerical solution of the Schrodinger equation. Phase shifts for the solutions belonging to the continuum spectrum calculated within different methods are presented.