

Abstract Submitted  
for the NWS07 Meeting of  
The American Physical Society

**The Lennard-Jones oscillator in quantum Hamilton-Jacobi theory** M.K. BALASUBRAMANYA, Texas A&M University-Corpus Christi, M.W. ROTH, University of Northern Iowa — We present a new scheme for calculating the energy eigenvalues of an oscillator modeled using the Lennard-Jones (12,6) potential for the zero angular momentum case. The eigenvalues are calculated using the quantum Hamilton-Jacobi theory making use of the action variable without obtaining a full solution of the dynamical equation. The energy eigenvalues so obtained are compared with those calculated numerically.

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Date submitted: 13 Apr 2007

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