

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Quantum Revivals of the Morse Oscillator in Position Space and Momentum Space ALVASON ZHENHUA LI, Microelectronics and Photonics Program, University of Arkansas at Fayetteville, AR 72701, WILLIAM HARTER, Department of Physics, University of Arkansas at Fayetteville, AR 72701 — Analytical solutions for the Morse oscillator are applied to investigate the quantum revivals both in position and momentum spaces. The properties of this anharmonic oscillator came across interesting space-time phenomena. These findings include simple Farey arithmetic revival structures. Such dynamic systems may have applications for quantum information technology and quantum computing.

Alvason Zhenhua Li
Microelectronics and Photonics Program,
University of Arkansas at Fayetteville, AR 72701

Date submitted: 23 Nov 2011

Electronic form version 1.4