Abstract Submitted for the NWS08 Meeting of The American Physical Society

Visualizing Non-Asymptotic Quantum Scattering from a Separable Potential JARED STENSON, ALBERT STETZ, Oregon State University — Quantum scattering processes are often only investigated in the asymptotic limit. However, using a separable gaussian potential we present analytic scattering solutions, which are valid even non-asymptotically. We use MATLAB visualizations of this non-asymptotic region to show the interference that occurs near the scatterer. Extending the visualizations using Bohm's quantum trajectories and more complicated scattering potentials will also be discussed.

Date submitted: 17 Apr 2008 Electronic form version 1.4