Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Spin Flip in the Presence of a Complex Absorbing Potential
FRANK MARSIGLIO, FATIH DOGAN, CINDY BLOIS, WONKEE KIM, University of Alberta — We examine the impact of a complex absorbing potential on electron transport, both in the continuum and on a lattice. This requires the use of non-Hermitian Hamiltonians; the required formalism is briefly outlined. The lattice formulation allows us to study the interesting problem of an electron interacting with a stationary spin, and the subsequent time evolution of the electron and spin properties as the electron is absorbed after the initial interaction. Remarkably, the properties of the localized spin are affected 'at-a-distance' by the interaction of the (now entangled) electron with a complex potential.

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Date submitted: 14 Dec 2007 Electronic form version 1.4