

MAR15-2014-001121

Abstract for an Invited Paper
for the MAR15 Meeting of
the American Physical Society

Luukko Scars - a New Mechanism for Wavefunction Scar Formation

ERIC HELLER¹, Harvard University

A new type of scarring phenomenon in bound quantum systems is reported that creates classical orbit localization as a result of localization in classical action. Perturbation of quasi-degenerate manifolds of unperturbed quantum states by a weak random potential is involved. The localization may be related to Anderson localization but this is still under investigation.

¹with Perttu Luukko, Esa Rasanen, Lev Kaplan, Anna Klales, and Byron Drury