ALBA DOLORES GARCÍA RUIZ, CUNEF Universidad
High-Energy Laplace Eigenfunctions on Integrable Billiards

A famous conjecture by Berry suggests that, in chaotic dynamical systems, Laplace eigenfunctions, with specific boundary conditions, resemble to random monochromatic waves; however, this behavior is generally not expected in integrable dynamical systems. Here, we explore the behavior of high-energy eigenfunctions and their connection to Berry's random wave model. In particular, we study a related property, which we call Inverse Localization, describing how eigenfunctions can approximate monochromatic waves in small regions of the domain.