L^∞ norm of generic chaotic eigenfunctions

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Abstract

A fundamental question in quantum chaos is to understand how localised/delocalised eigenfunctions of the Laplacian can be, in particular on manifolds of negative curvature. One way of addressing the question of delocalisation is to understand how large the L^∞ norms of the eigenfunctions can be. While there are several conjectures on the behaviour of these L^∞ norms, very little has been proved. In this talk, we will show adding small random perturbations to the Laplacian can help to prove L^∞ bounds on the eigenfunctions. This is joint work with Martin Vogel.