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Goodness estimates in microlocally allowable regions

Let (M, g) be a compact, C^ω Riemannian surface. Let $\{u_h\}$ be a quantum ergodic (QE) sequence of Laplace eigenfunctions. Then, for every locally asymmetric C^∞ curve $H \subset M$ there exist $C_H > 0$ and $h_0 > 0$ such that for $0 < h < h_0$

$$\|u_h\|_{L^2(H)} \geq e^{-C_H/h}.$$

In particular, such curves do not persist as components of eigenfunction nodal sets. This is joint work with Yaiza Canzani (UNC Chapel Hill).