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Theta lifts and concentration properties of eigenfunctions

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Abstract

Exceptional sequences of eigenfunctions of the Laplacian are defined for compact Riemannian manifolds. We review the literature for manifolds which are quantum completely integrable or admit isometric circle actions. Rudnick and Sarnak used the theta lift to find exceptional sequences for hyperbolic three manifolds. An extension of their work to hyperbolic manifolds of dimension greater than four will be presented.