



Quantum ergodic restriction for Cauchy data: Interior QUE and restricted QUE

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We prove a quantum ergodic restriction theorem for the Cauchy data of a sequence of quantum ergodic eigenfunctions on a hypersurface H of a Riemannian manifold (M, g) . The technique of proof is to use a Rellich type identity to relate quantum ergodicity of Cauchy data on H to quantum ergodicity of eigenfunctions on the global manifold M . This has the interesting consequence that if the eigenfunctions are quantum unique ergodic on the global manifold M , then the Cauchy data is automatically quantum unique ergodic on H with respect to operators whose symbols vanish to order one on the glancing set of unit tangential directions to H .

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