L^p resolvent estimates for simply connected manifolds of constant curvature

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Abstract

We prove families of uniform (L^r, L^s) resolvent estimates for simply connected manifolds of constant curvature that imply the earlier ones for Euclidean space of Kenig, Ruiz, and Sogge. In the case of the sphere, we use the fact that the half-wave group of the shifted Laplacian is periodic. In the case of hyperbolic space, the key ingredient is a natural variant of the Stein-Tomas restriction theorem. The talk is based on recent results obtained jointly with Christopher D. Sogge.