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L^p Boundedness of the Riesz transform related to Schrödinger operators on a manifold

NADINE BADR AND BESMA BEN ALI

Abstract. We establish various L^p estimates for the Schrödinger operator $-\Delta+V$ on Riemannian manifolds satisfying the doubling property and a Poincaré inequality, where Δ is the Laplace-Beltrami operator and V belongs to a reverse Hölder class. At the end of this paper we apply our result to Lie groups with polynomial growth.

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