

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

**ABSTRACT:** We report on a joint work with B. Ben Ali. We establish various  $L^p$  estimates for the Schrödinger operator  $-\Delta+V$  on Riemannian manifolds satisfying the doubling property and a Poincaré inequality, where  $\Delta$  is the Laplace-Beltrami operator and  $V$  belongs to a reverse Hölder class. We apply our result to Lie groups with polynomial growth.