

Ann. Scuola Norm. Sup. Pisa Cl. Sci. (5)
Vol. IV (2005), 531-555

Riesz transform on manifolds and Poincaré inequalities

PASCAL AUSCHER AND THIERRY COULHON

Abstract. We study the validity of the L^p inequality for the Riesz transform when $p > 2$ and of its reverse inequality when $1 < p < 2$ on complete Riemannian manifolds under the doubling property and some Poincaré inequalities.

Mathematics Subject Classification (2000): 58J35 (primary); 42B20 (secondary).