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Stefanie Petermichl* (stefanie@math.utexas.edu), 1 University Station C1200, Department of Mathematics, University of Texas, Austin, TX 78712. *The optimal bound for Riesz transforms in weighted spaces.*

The Riesz transforms and other Calderon Zygmund operators are bounded in weighted Lebesgue spaces $L^p(w)$ if and only if the weight has a finite classical characteristic $Q_p(w)$ and hence belongs to the class A_p . We establish the best possible growth of the norm of the Riesz transforms in terms of the characteristic of the weight. (Received August 05, 2006)