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Yakov Pesin* (pesin@math.psu.edu), Department of Mathematics, Penn State University, University Park, PA 16802. *Anosov rigidity – Nonuniform hyperbolicity everywhere implies uniform hyperbolicity.*

I describe a general mechanism for obtaining uniform information from pointwise data even when the pertinent quantities are highly discontinuous. As an application one can show that if a diffeomorphism of a compact Riemannian manifold has nonzero Lyapunov exponents everywhere then the nonwandering set is uniformly hyperbolic. If, in addition, there are expanding and contracting invariant cone families, which need not be continuous, then the diffeomorphism is an Anosov diffeomorphism. (Received February 12, 2008)