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01003. *Optimal bound for decay of correlations of nonuniformly hyperbolic systems.*

We investigate the decay rate of correlations for nonuniformly hyperbolic systems with singularities, which include chaotic billiards, for piecewise Hölder observables. By constructing a completely new scheme of coupling according to certain stopping times we obtain optimal bounds for the decay rate of correlations. Our results are applied to certain classes of billiards and linked-twist (Received August 18, 2013)