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Hongkun Zhang* (hongkunz@gmail.com). *Decay of correlations of nonuniform geodesic flows*. Preliminary report.

This is a joint work with Keith Burns. The study of decay of correlations for nonuniform suspension flows starts from Melbourne around 2006. In this paper, we consider the geodesic flows on surfaces with nonpositive curvature. We constructed a cross section in the phase space and first estimate the mixing rate for the Poincare map following the general approach for studying systems with singularities. Then by applying Melbourne's Theorem and we obtain the polynomial decay rates for the flow. (Received July 10, 2008)