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**Yuliy Baryshnikov\*** ([ymb@research.bell-labs.com](mailto:ymb@research.bell-labs.com)), 2c-361, 600 Mountain Ave, Murray Hill, NJ 07974. *Symbolic dynamics of geodesics on surfaces of non-positive curvature.*

Consider 2-dimensional compact Riemannian manifold of negative curvature and a system of closed geodesics loops (fences) partitioning the surface into open pieces containing no closed geodesics. This data define a symbolic dynamics: to any trajectory of the geodesic flow one associates the sequence of fences as they are encountered by the trajectory. Our main result is the invariance of the *complexity function* (that is, the number of subwords of given length  $n$  as a function of the length  $n$ ) with respect to deformation of the metric. Also some corollaries of this invariance are discussed. (Received September 04, 2007)