

THE MARKED LENGTH SPECTRUM OF NEGATIVELY-CURVED MANIFOLDS

by

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The marked length spectrum of a negatively-curved manifold is the collection of lengths of closed geodesics, differentiated by their free homotopy classes. It was conjectured by Burns and Katok in the '80s that it should parametrize the set of isometry classes of the manifold — which is not the case of the length spectrum (the collection of lengths, regardless of the homotopy), as proved by Vigneras. In the '90s, Croke and Otal proved this conjecture in dimension two but there has not been much progress since and the question remains open. I will present a proof of a local version of the conjecture which holds in any dimension and generalizes to Anosov geodesic flows under some assumptions. This is a joint work with Colin Guillarmou.

