Unique equilibrium states for geodesic flows in nonpositive curvature

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The geodesic flow for a compact Riemannian manifold with negative curvature has a unique equilibrium state for every Holder continuous potential function. This is no longer true if the curvature is only nonpositive. We show that there is a large class of potentials with unique equilibrium states. Specifically, we prove that for compact rank 1 surfaces of nonpositive curvature that the a scalar times geometric potential has a unique equilibrium state for the scalar less than 1. Furthermore, if a potential satisfies a bounded range hypothesis for compact rank 1 manifolds with nonpositive curvature, then there will be a unique equilibrium state. This is joint work with Keith Burns, Vaughn Climenhaga, and Dan Thompson.