

Meeting: 1003, Atlanta, Georgia, SS 10A, AMS Special Session on Dynamics of Mapping Class Groups on Moduli Spaces, I

1003-57-1117 **William M. Goldman** (wmg@math.umd.edu), Department of Mathematics, University of Maryland, College Park, MD 20742, and **Richard A Wentworth*** (wentworth@jhu.edu), Department of Mathematics, Johns Hopkins University, 3400 N. Charles Street, Baltimore, MD 21218. *Proper actions of the mapping class group and the energy of harmonic maps.*

The energy of harmonic sections of flat bundles of nonpositively curved length spaces over Riemann surfaces is a function on Teichmueller space which is a qualitative invariant of the holonomy representation. Adapting ideas of Sacks-Uhlenbeck, Schoen-Yau, and Tromba, we show that the energy function is proper for any convex cocompact representation of the fundamental group. As a corollary, the mapping class group acts properly on the subset of convex cocompact representations. (Received October 04, 2004)