

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

1003-57-552 **Walter D Neumann*** (neumann@math.columbia.edu), Department of Mathematics, Columbia Univ., Columbia University, 2990 Broadway MC4424, New York, NY 10027, and **William M Goldman** (wmg@math.umd.edu), Department of Mathematics, University of Maryland, College Park, MD 20742. *Homological action of the modular group on some cubic moduli spaces.*

We describe the action of the automorphism group of the complex cubics of the form $x^2 + y^2 + z^2 - xyz - Px - Qy - Rz$ on the homology of their fibers. These actions include the action of the mapping class group of a punctured torus on the subvarieties of its $SL(2, \mathbb{C})$ character variety given by fixing the trace of the peripheral element (so-called “relative character varieties”) and the actions of the mapping class group of a four-holed sphere on its relative character varieties. The mapping class groups in these two cases are isomorphic to $PGL(2, \mathbb{Z})$ and its 2-congruence subgroup respectively. (Received September 21, 2004)