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

1003-57-680 **Joseph P Previte*** (jpp4@psu.edu), Penn State Erie, School of Science, Station Road, Erie, PA 16563, and **Eugene Z Xia**. *Dynamics of the mapping class group on the moduli of a punctured sphere with rational holonomy.*

Let M be a four-holed sphere and Γ the mapping class group of M fixing the boundary ∂M. The group Γ acts on $M_B(SL(2,C)) = Hom_B^+(\pi_1(M), SL(2,C))/SL(2,C)$ which is the space of completely reducible $SL(2,C)$-gauge equivalence classes of flat $SL(2,C)$-connections on M with fixed holonomy B on ∂M. Let $B \in (-2,2)^4$ and M_B be the compact component of the real points of $M_B(SL(2,C))$. These points correspond to SU(2)-representations or $SL(2,R)$-representations. The Γ-action preserves M_B and we study the topological dynamics of the Γ-action on M_B and show that for a dense set of holonomy $B \in (-2,2)^4$, the Γ-orbits are dense in M_B. We also produce a class of representations $\rho \in Hom_B^+(\pi_1(M), SL(2,R))$ such that the Γ-orbit of $[\rho]$ is finite in the compact component of $M_B(SL(2,R))$, but $\rho(\pi_1(M))$ is dense in $SL(2,R)$. (Received September 27, 2004)