

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

1003-22-398 **Ser Peow Tan*** (mattansp@nus.edu.sg), Department of Mathematics, National University of Singapore, 2, Science Drive 2, 117543 Singapore, Singapore, **Yan Loi Wong**, Department of Mathematics, National University of Singapore, 2, Science Drive 2, 117543 Singapore, Singapore, and **Ying Zhang**, Department of Mathematics, National University of Singapore, 2, Science Drive 2, 117543 Singapore, Singapore. *Generalized Markoff Maps and McShane's Identity.*

We study generalized Markoff maps, these correspond to the representation varieties of the punctured torus group to $PSL(2, \mathbf{C})$, they admit a natural action of the mapping class group $(SL(2, \mathbf{Z}))$ of the punctured torus. In particular, we give necessary and sufficient conditions for the (generalized) McShane identity to hold for such maps, and also for variations of the McShane identity to hold for generalized Markoff maps stabilized by a cyclic subgroup of the mapping class group generated by either a hyperbolic or a parabolic element of $SL(2, \mathbf{Z})$, generalizing results of B. Bowditch. We also construct examples of non-trivial Markoff maps which are stabilized by relatively large (not finite or virtually cyclic) subgroups of $SL(2, \mathbf{Z})$, the existence of such maps was a question posed by Bowditch. (Received September 13, 2004)