

Temple University Mathematics Colloquium

Ser Peow Tan

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will speak on

Generalized Markoff maps
and McShane's identity

We study the space of marked two generator subgroups of the group $SL(2, C)$ via generalized Markoff maps, following Bowditch. These are equivalence classes of representations of the free group Γ on two generators into $SL(2, C)$. We show that Bowditch's Q-conditions for generalized Markoff maps are sufficient for the generalized McShane's identity to hold for the corresponding representations. These conditions are very close to being necessary as well, and a large class of representations arising from important and interesting geometric constructions satisfy these conditions. We also show that the set of representations satisfying these conditions is open in the relative character variety, and that the mapping class group acts properly discontinuously on this set.

We moreover generalize Bowditch's results on variations of McShane's identity for complete, finite volume hyperbolic 3-manifolds which fiber over the circle, with the fiber a punctured-torus, to identities for incomplete hyperbolic structures on such manifolds, hence obtaining identities for closed hyperbolic 3-manifolds which are obtained by doing hyperbolic Dehn surgery on such manifolds. This is joint work with Yan Loi Wong and Ying Zhang of the National University of Singapore.

MONDAY, JANUARY 31, 2005
LECTURE AT 4:00 PM (#)
COFFEE, TEA, AND REFRESHMENTS FROM 3-5 PM.
ROOM 617, WACHMAN BUILDING
DEPARTMENT OF MATHEMATICS