



MANHATTAN ALGEBRA DAY

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Non-standard group actions

Friday, December 9, 2011
CUNY Graduate Center, Room C205
10:30 am

Abstract:

A group is called Λ -free if it has a free Lyndon length function in an ordered abelian group Λ , which is equivalent to having a free isometric action on a Λ -tree. A group has a regular free length function in Λ if and only if it has a free isometric action on a Λ -tree so that all branch points belong to the orbit of the base point. We prove that every finitely presented Λ -free group G can be embedded into a finitely presented group with a regular free length function in Λ so that the length function on G is preserved by the embedding. Next, we prove that every finitely presented group with a regular free Lyndon length function in Λ has a regular free Lyndon length function in R^n ordered lexicographically for an appropriate n and can be obtained from a free group by a series of finitely many HNN-extensions in which associated subgroups are maximal abelian and length isomorphic.

Joint result with A. Miasnikov and D. Serbin.