



MANHATTAN ALGEBRA DAY

Alex Lubotzky

Hebrew University

Deformation theory and finite simple quotients of triangle groups

Friday, December 5th, 2014
CUNY Graduate Center, Room 9205
11:20 am

Abstract:

Many works have been dedicated to the question: given a hyperbolic triangle group $T = T(a, b, c)$, which finite (simple) groups are quotients of T ? The case of $(a, b, c) = (2, 3, 7)$ being of special interest. Many positive and negative results have been proven by either explicit or random methods. We will present a new method to study this problem using deformation of group representations. This will enable us to 1) prove a conjecture of Marion which gives a guiding rule for the wealth of results 2) adding many new groups to the list of quotients of T . This includes the case of $(2, 3, 7)$, for which we saw that simple groups of type E_8 are quotients of it (answering a question of Guralnick).

This is a joint work with Michael Larsen and Claude Marion (to appear in JEMS).