

1053-22-65

Lisa Carbone and **Ben Martin*** (B.Martin@math.canterbury.ac.nz), Maths Department,
University of Canterbury, Private Bag 4800, Christchurch, 8140, New Zealand. *Deformations of
lattices in $PSL_2(K)$, K a local field.* Preliminary report.

Let K be a local field. A *lattice* is a discrete subgroup Γ of $PSL_2(K)$ such that the quotient space $\Gamma \backslash PSL_2(K)$ has finite measure. We consider deformations of lattices: that is, spaces of conjugacy classes of lattices that are all isomorphic to the same abstract group. If Γ is isomorphic to a free group on N generators then Γ is a so-called Schottky lattice; spaces of Schottky lattices were studied by Lubotzky. I will discuss deformations of certain lattices with torsion. This draws on ideas from two sources:

- 1) the theory of groups acting on trees; and
- 2) the theory of character varieties of finitely generated groups.

This talk is based on joint work with Lisa Carbone. (Received August 06, 2009)