Algebra Seminar

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Hecke Modules for $SL_3(\mathbb{Q}_p)$

Abstract:

From number theory to knots, Hecke algebras have applications within many areas of mathematics. In this talk we describe a pictorial calculus for computing convolution products in affine Hecke algebras over fields of characteristic zero.

Convolution products of this type have been understood since the work of Iwahori and Matsumoto [1965]. However, using results of Parkinson, Ram and Schwer [2006], we can now draw pictures illustrating the rich combinatorial nature of these products.

We describe this pictorial calculus in the example of $SL_3(\mathbb{Q}_p)$. Its applicability is limited to characteristic zero.