Hermitian Forms for Iwahori- Hecke Algebras

Abstract: This talk will discuss star operations for Iwahori-Hecke algebras, joint work with Dan Ciubotaru. Hecke algebras are structures which are used to study the representation theory of p-adic groups. In particular by results of Barbasch-Moy and subsequently Barbasch-Ciubotaru, there is a precise relation between the unitary dual of a block of representations of a p-adic group and a particular iwahori-Hecke algebra. in order to talk about unitarity for an Iwahori-Hecke algebra, one needs a star operation. For semisimple Lie algebras, star operations are essentially parametrized by real forms. An analogous situation exists for Hecke algebras, but the situation is more rigid.