Blocks and Schur elements for Hecke algebras of exceptional complex reflection groups

Maria Chlouveraki
National and Kapodistrian University of Athens, Greece

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Complex reflection groups are finite groups generated by (pseudo)reflections. They are products of irreducible complex reflection groups, which can either belong to the infinite series $G(de, e, n)$ or to the 34 exceptional groups $G_4, G_5, \ldots, G_{37}$. Most results obtained with the use of algebraic combinatorics for the former are obtained with the use of computer algebra for the latter. In this talk, we will give an overview of our results on the modular representation theory of Hecke algebras associated with exceptional complex reflections obtained computationally: from the description of blocks and Schur elements to the verification of old and new conjectures.