

Extensions of simple modules for the symmetric group in positive characteristic

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102 Bradley Hall, 4:00 pm
(Tea 3:30 pm Math Lounge)

Abstract

The ordinary representation theory of the symmetric group Σ_d is well understood. The irreducible representations are all known, together with nice formulas for their dimensions and character values. Restriction and induction of the irreducibles to Σ_{d-1} and Σ^{d+1} is described by the classical branching theorem.

The modular, or characteristic p , representation theory is more difficult, and more interesting. Many of the most basic questions are still open. Kleshchev has recently made significant progress in attacking the modular branching problem. We will describe an application of his work to studying extensions between a class of simple modules called “completely splittable.”

The talk will be easily accessible to graduate students or advanced undergraduates.