

Queen's Algebraic Geometry — Seminar —

PLANCHEREL MEASURE AND RECTANGULAR ASYMPTOTICS

JONATHAN NOVAK
Queen's University

Abstract

The set of (equivalence classes of) complex irreducible finite-dimensional representations of any finite group G comes equipped with a natural probability measure, the Plancherel measure. In the case when $G = S(N)$, the symmetric group on $1, 2, \dots, N$, the Plancherel measure can be described very concretely using Young tableaux. Moreover, the Plancherel measure on irreps of $S(N)$ admits an alternative description as the pushforward of uniform measure on $S(N)$ under the famous Robinson-Schensted-Knuth correspondence. This concrete description of Plancherel measure has led to the development of a theory of random partitions which is in many ways a discrete analogue of random matrix theory. In this talk we will present a new and elementary proof of a classical theorem of Regev, which historically marked the first known connection between Plancherel measure and random matrices.

Monday, February 9, 2009
4:30pm – 5:30pm
319 Jeffery Hall