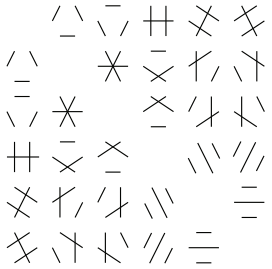
Mathematics Seminar



Rocky Mountain Algebraic Combinatorics Seminar

Gelfand pairs and finite metric spaces

Richard Green
University of Colorado Boulder

A pair of finite groups (G, H) is called a "Gelfand pair" if H is a subgroup of G and if the trivial character of H is multiplicity free when induced to G. This talk will review some of the basic properties of Gelfand pairs of finite groups, with particular emphasis on examples that arise from transitive groups of isometries of finite metric spaces.

A tale of two bases

Richard Green
University of Colorado Boulder

A well-known example of a Gelfand pair (G, H) of finite groups is the case where $G = S_n$ is the symmetric group, and $H = S_k \times S_{n-k}$ (for $1 \leq k \leq n/2$) is a maximal Young subgroup. We will discuss two natural bases for the coset space G/H, and describe some of their properties. The first basis is the obvious basis coming from the cosets themselves, which are naturally indexed by the k-element subsets of an n-element set. The second basis, which will be defined in the talk, is naturally indexed by the set of standard Young tableaux with two rows and with at most k boxes in the second row.

Weber 223
4–6 pm, Friday, February 3, 2022
(Refreshments 3:30–4 pm)
Colorado State University
4 pm, Friday, February 3, 2022

This is a joint Denver U / UC Boulder / U of Wyoming / CSU seminar that meets biweekly.
Anyone interested is welcome to join us at a local restaurant for dinner after the talks.

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