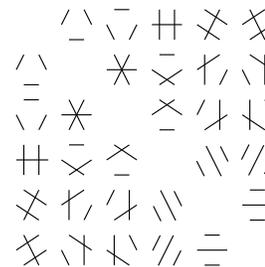


Mathematics Seminar



Rocky Mountain Algebraic Combinatorics Seminar

The poset of orthogonal bases of roots

Richard Green
CU Boulder

A root system of type ADE is a certain discrete set of vectors in Euclidean space. In some cases, it is possible to form a basis for the ambient space that consists entirely of orthogonal positive roots. In the cases where this happens, we will show how to endow the set X of all such bases with the structure of a partially ordered set having a maximum and a minimum element.

This is joint work with Tianyuan Xu (University of Richmond).

Structures arising from orthogonal bases of roots

Richard Green
CU Boulder

The poset X of orthogonal bases of positive roots can be used to construct examples of many other combinatorial objects. This talk will be a romp through many of these structures, which include distributive lattices, Eulerian posets, Steiner systems, strongly regular graphs, Erdős–Ko–Rado type constructions, quantum isomorphism of graphs, and 6-dimensional chess.

This is joint work with Tianyuan Xu (University of Richmond).

Weber 223
4–6 pm, Friday, October 18, 2024
(Refreshments 3:30–4 pm)
Colorado State University
4 pm, Friday, October 18, 2024

This is a joint Denver U / CU 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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