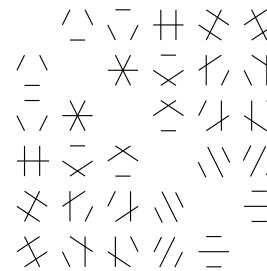


Mathematics Seminar



Rocky Mountain Algebraic Combinatorics Seminar

Yet Another Algebraic Proof of the Erdős-Ko-Rado Theorem

Nathan Lindzey
UC Boulder

We give a short new algebraic proof of the Erdős-Ko-Rado theorem, that for $k < n/2$, the largest families of k -sets of an n -element set such that any two of its members intersect are precisely those families composed of all k -sets that contain some fixed element. Time permitting, we discuss how this proof generalizes to other combinatorial domains. Joint work with Yuval Filmus.

My White Whale

James Wilson
CSU

When I interviewed at CSU I spoke on a recent result with P.A. Brooksbank (computing isometries in polynomial-time) that was a break through at the time but had one vexing problem: *it failed in characteristic 2!* Over the past decade I have attacked this problem with multiple strategies including:

- Learn all I can about quadratic Jordan algebras, involutions, Lie modules.
- Ask all the smart people I know.
- Campaign to remove 2 as a prime.

Nothing worked until this summer when Peter Brooksbank, Martin Kassabov, and yes also me, finally solved it. Come find out what the problem means, why it matters, and why it took me a decade to solve it.

Weber 223
4–6 pm, Friday, Sep 17, 2021
(Refreshments 3:30–4 pm)
Colorado State University

This is a joint Denver U / UC Boulder / UC Denver / 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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