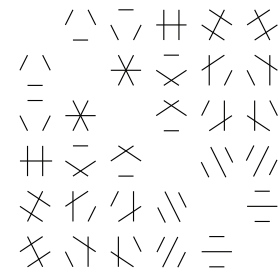# Mathematics Seminar

Rocky Mountain Algebraic Combinatorics Seminar

Simultaneous block diagonalization and triangularization of high-dimensional tensors

James Wilson
Colorado State University

Efficiently block diagonalizing or triangularizing a matrix is well-known, but doing the same for 3-tensor, 4-tensor etc. is also possible by appealing to some associative and non-associative algebr a, and a small amount of category theory. I will assume no prior knowledge outside of linear algebra.

Constructive Membership Tests in Some Infinite Matrix Groups

Alexander Hulpke
Colorado State University

I'll describe algorithms and heuristics that allow us to express arbitrary elements of $SL_n(Z)$ and $Sp_{2n}(Z)$ as products of generators in particular "standard" generating sets. For elements obtained experimentally as random products, they produce product expressions whose lengths are competitive with the input lengths.

Weber 223
4–6 pm
Friday, Sep 7, 2018
(Refreshments in Weber 117, 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.

Colorado State University

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