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Discrete Mathematics Seminar

Time: Friday, February 17, 2017, 2:15-3:15 PM
Room: 237 Derrick Hall
Title: Developments in Oriented Hypergraphs
Speaker: Dr. Lucas Rusnak, Department of mathematics, Texas State University

Abstract:

We will survey recent developments in oriented hypergraphs. Focus will be on how the locally signed graphic property allows for the generalization of graph theoretic theorems to appropriate hypergraphic analogs. Topics will cover a unifying relationship between entries between generalized Laplacian, adjacency, and path matrices and associated shifts of their characteristic polynomials, a universal matrix-tree theorem for each of the matrices, a characterization of the coefficients of the characteristic polynomials, and their relationship to basis counts of the signed graphic matroid.