

Kempner Colloquium

PRODUCT FORMULAS FOR VOLUMES OF FLOW POLYTOPES

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The flow polytope associated to an acyclic graph is the set of all nonnegative flows on the edges of the graph with a fixed netflow at each vertex. We will examine flow polytopes arising from permutation matrices, alternating sign matrices and Tesler matrices. Our inspiration is the Chan–Robins–Yuen polytope (a face of the polytope of doubly-stochastic matrices), whose volume is equal to the product of the first n Catalan numbers (although there is no known combinatorial proof of this fact!). The volumes of the polytopes we study all have nice product formulas.

Tuesday March 31, 2015

12:10 PM - 12:50 PM

MATH 350