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The Acyclotope and Hyperplanes of a Graph

Abstract for the Combinatorics Seminar 2015 May 8

The acyclotope A(G) (“graphical zonotope” to Postnikov) is the convex hull of the net in-degree vectors (in-degree − out-degree) of all acyclic orientations of a graph G; also, of the net-degree vectors of all orientations of G. The acyclic vectors are the vertices of the acyclotope. The acyclotope is a zonotope that is dual to the hyperplane arrangement of G; the vertices of A(G) correspond to the regions of the arrangement, and the faces of A(G) correspond to the faces of the arrangement. I will explain all this.
