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### The Acyclotope and Hyperplanes of a Graph

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#### Abstract for the Combinatorics Seminar 2015 May 8

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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.

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From:

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Last update: **2020/01/29 19:03**

