

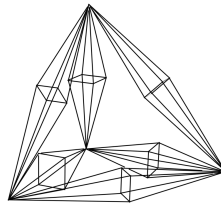
STudent REsearch TalkS (StReTs)

Mason Experimental Geometry Lab (MEGL)

Hom Polytopes

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Abstract

The definition of the Hom polytope is simple, requiring only basic knowledge of vector spaces and linear transformations, though the objects themselves and their full significance are rather elusive. They are central to a category theoretic view of polytope theory which suggests a unifying analysis of polytopes analogous to homology theory for topological spaces.

In this talk, however, we stick to the basics. Simply defining these objects and constructing a few examples provides plenty of material for further exploration by the curious student. Informally, given two polytopes P and Q , the resulting Hom polytope, denoted $\text{Hom}(P, Q)$, is a geometric realization of the relationship between the geometries and combinatorics of P and Q . Our goal will be to gain some intuition for the structure of Hom polytopes and look at some recent results.

Date: Wednesday, November 5, 2014

Time: 4:00pm–5:00pm

Place: Fishbowl, Fourth Floor, Exploratory Hall

Pizza and soda will be served at the presentation.

For further information or for special accommodations, please contact Sean Lawton via email at seanlawton@gmail.com or drop by the MEGL.