

On a special class of general permutahedra

Geir Agnarsson, George Mason University, Fairfax VA – 22030

Abstract

Minkowski sums of standard simplices in \mathbb{R}^n form an interesting class of polytopes that seem to emerge in various situations. In this talk we discuss the Minkowski sum of standard simplices Δ_{k-1} in \mathbb{R}^n where k and n are fixed, their flags and some of their face lattice structure. These polytopes are simple, include both the standard simplex Δ_{n-1} and the permutahedron Π_{n-1} , and can be viewed as a basis for more general permutahedra.

Keywords: Minkowski sum, face lattice, flags.