

Jochemko, Katharina, Combinatorial positive valuations

In the continuous setting, valuations are well-studied and the volume plays a prominent role in many classical and structural results. It has various desirable properties such as homogeneity, monotonicity and translation-invariance. In the less examined discrete setting, the number of lattice points in a polytope - its discrete volume - takes a fundamental role. Although homogeneity and continuity are lost, some striking parallels to the continuous setting can be drawn. The central notion here is that of combinatorial positivity. In this talk, I will discuss similarities, analogies and differences between the continuous and discrete world of translation-invariant valuations as well as applications to Ehrhart theory.