Abstract

Unimodular triangulations of lattice polytopes arise in algebraic geometry, commutative algebra, integer programming and, of course, combinatorics.

In this article, we review several classes of polytopes that do have unimodular triangulations and constructions that preserve their existence.

We include, in particular, the first effective proof of the classical result by Knudsen-Mumford-Waterman stating that every lattice polytope has a dilation that admits a unimodular triangulation. Our proof yields an explicit (although doubly exponential) bound for the dilation factor.