

MUTATION EQUIVALENCE OF FANO POLYGONS

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ABSTRACT

A Fano polytope P is an n -dimensional convex lattice polytope with vertices in \mathbb{Z}^n such that the origin lies in the interior of P . Given a Fano polytope, we may define a Fano variety. The focus of this talk is on an equivalence relation for Fano polygons, which are two-dimensional Fano polytopes. Two Fano polygons are equivalent if there exists a combinatorial mutation from one to the other. In this presentation, I will explain the mutation process from P to Q , taking P to be the polygon for the Fano variety \mathbb{P}^2 as the main example. I will also describe two surrounding notions of equivalence, one between the dual polygons P^* and Q^* , and another between the Laurent polynomials associated to P and Q .