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Three kinds of differences among polytopes and their toric interpretation

For two polytopes P,Q in a finite-dimensional vector space M we can introduce three different notions of differences:

- 1) the formal difference P-Q for turning the semigroup of polytopes (under Minkowski addition) into a group,
- 2) the set (P:Q) consisting of all elements m of M such that m+Q is contained in P, and
- 3) the set theoretic difference P Q.

The goal of the talk is to explain the meaning of these constructions within toric geometry where the polytopes P and Q represent certain invertible sheaves.