Tropical bases by regular projections

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10/31/2007

Abstract

This talk gives a short introduction into the theory of tropical geometry. Furthermore we consider the tropical variety $T(I)$ of a prime ideal $I$ generated by the polynomials $f_1, \ldots, f_r$ and revisit the regular projection technique introduced by Bieri and Groves from a computational point of view. In particular, we show that $I$ has a short tropical basis of cardinality at most $r + \text{codim } I + 1$ at the price of increased degrees, and we present an example.

Joint work with Thorsten Theobald ([1])

References