

Tropical bases by regular projections

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Abstract

This talk gives a short introduction into the theory of tropical geometry. Furthermore we consider the tropical variety $\mathcal{T}(I)$ of a prime ideal I generated by the polynomials f_1, \dots, 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

- [1] K. Hept and T. Theobald. Tropical bases by regular projections. Preprint, arXiv:0708.1727, 2007.