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A Tropical Version of Hilbert Polynomial (remote)

Thursday, 2 December 2021 14:00 (50 minutes)

We define Hilbert function of a semiring ideal of tropical polynomials in n variables. For $n = 1$ we prove that it is the sum of a linear function and a periodic function (for sufficiently large values). The leading coefficient of the linear function equals the tropical entropy of the ideal. For an arbitrary n we discuss a conjecture that the tropical Hilbert function of a radical ideal is a polynomial of degree at most $n-1$ (for sufficiently large values). For $n = 1$ the conjecture is true, also we have proved it for zero- dimensional ideals and for planar tropical curves.

Presenter: GRIGORYEV, Dimitri (CNRS Painlevé Lab, Univ. Lille)