

MAX-PLUS POLYNOMIALS AND THEIR ROOTS

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Max-plus algebra emerges in many fields of Mathematics such as Algebraic Geometry, Mathematical Physics and Combinatorial Optimization. In part, its importance is related to the fact that it makes various parameters of mathematical objects computationally accessible. Max-plus polynomials play a fundamental role in this, especially for the case of Algebraic Geometry. On the other hand, many algebraic questions behind max-plus polynomials remain open. In this talk we will discuss some recent results on max-plus polynomials and their roots. In particular, we will discuss solvability problem for max-plus linear systems, max-plus analogs of classical Nullstellensatz, Combinatorial Nullstellensatz, Schwartz-Zippel Lemma and Universal Testing Set.

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