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Tropical Ideals

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Tropical ideals are combinatorial objects introduced with the aim of giving tropical geometry a solid algebraic foundation. They can be thought of as combinatorial generalizations of the possible collections of subsets arising as the supports of all polynomials in an ideal of the polynomial ring. In general, the structure of tropical ideals is dictated by a sequence of 'compatible' matroids. In this talk I will introduce and motivate the notion of tropical ideals, explain their connection to matroid symmetric powers, and discuss work studying some of their main properties and their possible associated varieties.

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