

Multiprojective varieties: their multidegree and applications

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Abstract

In applied algebraic geometry, we are interested in solving structured systems of polynomial equations that are defined by multihomogeneous polynomials. Such systems define multiprojective varieties that have an invariant called the *multidegree*. In this talk, a new numerical algebraic geometry method for computing multidegrees will be presented. Throughout the talk, motivating examples related to kinematics, tensor decomposition, and maximum likelihood estimation will be shown.

This is joint work with Jonathan D. Hauenstein, and joint work with Abraham Martin del Campo will also be presented.