

Syzygies, Rees algebras, and the implicitization problem

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Abstract

Given a rational parametrization of a projective variety X embedded in an n -dimensional projective space, a central problem at the intersection of commutative algebra, algebraic geometry, and geometric modeling is to determine the implicit defining equations of the variety X . One approach to this problem is through the study of the syzygies and the Rees algebra of the base ideal of the rational parametrization. In this talk, I will discuss this approach and present recent results obtained in collaboration with R. Burity (UFPB), T. Fiel (UFPE), and A. Simis (UFPE) that are related to this topic.

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