

Meeting: 1003, Atlanta, Georgia, SS 34A, AMS Special Session on Algorithmic Algebraic and Analytic Geometry, I

1003-14-777

Grigoriy Blekherman* (gblekher@umich.edu), Department of Mathematics, 2082 East Hall,
525 East University, Ann Arbor, MI 48109. *Large Sections of Nonnegative Polynomials and Sums
of Squares.*

I have previously shown that for the case of a fixed degree there are significantly more nonnegative polynomials than sums of squares. However, I will explain that "well behaved" nonnegative polynomials have restrictions to subspaces of large dimension that are sums of squares. A conjecture of V.Milman says that every nonnegative polynomial should admit such a section. (Received September 29, 2004)