

1056-90-2136 **Pablo A Parrilo*** (parrilo@mit.edu), Massachusetts Institute of Technology, 77 Massachusetts Ave, RM 32D-726, Cambridge, MA 02139. *The convex algebraic geometry of rank minimization.*

Optimization problems involving ranks of matrices are of great importance in applied mathematics and engineering. They provide a rich and fruitful interaction between algebraic-geometric concepts and convex optimization, with strong connections and synergies with popular techniques for sparsity minimization like compressed sensing. In this talk we will describe the key results in this exciting research area, highlighting the geometric and conceptual aspects as well as surveying recent work, applications and algorithms. (Received September 23, 2009)