

1125-52-2124 **Cynthia Vinzant*** (clvinzan@ncsu.edu). *Convex algebraic geometry.*

Convex algebraic geometry is the study of convex sets defined by real polynomial inequalities, using tools from both convexity and algebraic geometry. Important examples include spectrahedra, hyperbolicity cones, convex hulls of varieties, and cones of nonnegative polynomials. I will define these objects and discuss their relation to problems in semidefinite programming and other areas in optimization. (Received September 19, 2016)