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## On the size of spectrahedral descriptions

### Abstract

A spectrahedron is a set defined by a linear matrix inequality. Given a spectrahedron, we are interested in the question of the smallest possible size  $r$  of the matrices in the description by linear matrix inequalities. After some generalities, we focus on the case of convex regions defined by quadratic and cubic polynomials.

Talk time: 07/21/2016 3:00PM— 07/21/2016 3:20PM

Talk location: Crow 206

Special Session: Non-commutative inequalities. Organized by J.W. Helton and I. Klep.