Semidefinite programming

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ABSTRACT

Convex optimization problems involving linear matrix inequalities have spurred research in a wide variety of application fields, including control system analysis and synthesis, combinatorial optimization, circuit design, structural optimization, experiment design, and geometrical problems involving ellipsoidal bounding and approximation. In the first part of this talk, I will describe the basic problems, semidefinite programming and determinant maximization, discuss their basic properties, and give a brief description of interior-point methods for their solution. In the second half of the talk I will survey applications.