

Lower bounds on semidefinite representations

Pablo A. Parrilo

Abstract—Semidefinite programming (SDP) representations of convex sets are of great importance in optimization and applied mathematics. In this talk we discuss several techniques for producing lower bounds on the size of SDP representations. Based on joint work with Hamza Fawzi and James Saunderson (MIT).

REFERENCES

- [1] H. Fawzi, P.A. Parrilo, Exponential lower bounds on fixed-size psd rank and semidefinite extension complexity, [arXiv:1311.2571](#), 2013.
- [2] H. Fawzi, J. Saunderson, P.A. Parrilo, Equivariant semidefinite lifts and sum-of-squares hierarchies, [arXiv:1312.6662](#), 2013.

¹P. A. Parrilo is with the Laboratory of Information and Decision Systems (LIDS), Massachusetts Institute of Technology, Cambridge, MA 02139. parrilo@mit.edu