
LEVENT TUNCEL, University of Waterloo

Primal-dual algorithms for hyperbolic programming problems

We will present new primal-dual algorithms for hyperbolic programming problems. Our algorithms have many desired properties including polynomial-time iteration-complexity for computing an approximate solution (for well-posed instances). In the special case of dense SDPs (as well as for symmetric cone programming problems with self-scaled barriers), our algorithms specialize to Nesterov-Todd algorithm. However, for certain sparse SDPs, our algorithms are new and have additional desired properties.

The talk is based on joint work with Lieven Vandenberghe.