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Copositive Optimization Based Bounds on Box Constrained Quadratic Optimization

Box constrained quadratic optimization problems (BoxQPs) can be formulated as a linear optimization problem over the cone of completely positive matrices in several different ways. We consider two alternative formulations. We study the sequences of upper and lower bounds on the optimal value of a BoxQP arising from two hierarchies of inner and outer polyhedral approximations for both of these formulations.