Recent Approximation Results on Quadratic Optimization

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Abstract: In this talk we shall present several new results on quadratic optimization problems using SDP relaxation and randomization procedures. The quadratic optimization problems to be discussed include:

(1) complex positive semidefinite quadratic form to be maximized subject to squared functional constraints;

(2) complex indefinite quadratic form to be maximized subject to squared functional constraints;

(3) positive semidefinite quadratic form to be optimized subject to homogeneous quadratic constraints.

Applications of these models will be discussed as well.

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