



A Stochastic Smoothing Algorithm for Semidefinite Programming

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We use a rank one Gaussian perturbation to derive a smooth stochastic approximation of the maximum eigenvalue function. We then combine this smoothing result with an optimal smooth stochastic optimization algorithm to produce an efficient method for solving maximum eigenvalue minimization problems. We show that the complexity of this new method is lower than that of deterministic smoothing algorithms in certain precision/dimension regimes.

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