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IDEALS OF GAUSSIAN GRAPHICAL MODELS

Abstract: The vanishing ideal of a Gaussian graphical model contains all polynomial relations on the entries of the covariance matrix entailed by that model. Among the relations are determinantal constraints that are equivalent to conditional independence constraints. Determinantal constraints are often not sufficient to give a complete description of the vanishing ideal, and it remains a major open problem to determine the circumstances that guarantee that determinantal constraints are sufficient to generate the ideal. I will talk about some results in this direction.

This talk is based on a joint work with Pratik Misra.