

Markov Chain Monte Carlo methods for the regular two-level fractional factorial designs and cut ideals

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It is known that a Markov basis of the binary graph model of a graph G corresponds to a set of binomial generators of cut ideals of the suspension of G . In this paper, we give another application of cut ideals to statistics. We show that a set of binomial generators of cut ideals is a Markov basis of some regular two-level fractional factorial design. As application, we give a Markov basis of degree 2 for designs defined by at most two relations.