

Reconstruction of Binary Matrices Satisfying Neighborhood Constraints by Simulated Annealing

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Abstract : This paper considers the NP-hard problem of reconstructing binary matrices satisfying exactly-1-4-adjacency constraint from its row and column projections. This problem is formulated into a maximization problem. The objective function gives a measure of adjacency constraint for the binary matrices. The maximization problem is solved by the simulated annealing algorithm and experimental results are presented.

Keywords : discrete tomography, exactly-1-4-adjacency, simulated annealing, binary matrices

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