Seminar on Combinatorial Computing
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Room 3212, Graduate Center
365 Fifth Avenue, New York

Optimal Packing of Induced Stars in a Graph

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Abstract

Let G be a simple undirected graph. A subset Y of the edges of G is called an induced n-star packing of G if every component of the subgraph $G[Y]$ induced by Y is a star with at most n edges and is an induced subgraph of G. We consider the problem of finding an induced n-star packing of G that covers the maximum number of vertices. This problem is a natural generalization of the classical matching problem. We show that many wellknown results on matchings (such as Tutte's 1-Factor Theorem, Berge's Duality Theorem, the Gallai–Edmonds Structure Theorem, the Matching Matroid Theorem) can be extended to induced n-star packings in a graph.

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or visit our website: http://math.gc.cuny.edu/Seminars/Combinatorics.html