

1035-68-256

Ding-Zhu Du* (dzdu@utdallas.edu), Dept of Computer Science, Univ of Texas at Dallas, Richardson, TX 75083. *Analysis of Greedy Approximation with Nonsubmodular Potential Function.*

There exist many greedy approximations for various combinatorial optimization problems, such as set covering, Steiner tree, subset-interconnection designs, etc.. There are also many methods to analyse them in the literature. However, all of previously known methods are suitable only for those greedy approximations with submodular potential functions. In a recent work of Du, Graham, Pardalos, Wan, Wu and zhao, a new method is introduced to analyse a large class of greedy approximations with nonsubmodular potential functions, including some long-standing heuristics for Steiner trees, connected dominating set, and power-assignment in wireless networks. In this talk, I'll introduce this work. (Received August 25, 2007)