Frequency-driven tabu search for the maximum s -plex problem

Submitted by Jin-Kao Hao on Sun, 06/04/2017 - 09:40

Titre	Frequency-driven tabu search for the maximum s -plex problem
Type de publication	Article de revue
Auteur	Zhou, Yi [1], Hao, Jin-Kao [2]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2017
Langue	Anglais
Date	Octobre 2017
Pagination	65–78
Volume	86
Titre de la revue	Computers & Operations Research
ISSN	03050548
Mots-clés	Clique relaxation [3], Heuristic [4], Massive network [5], s-plex [6]
Résumé en anglais	The maximum s-plex problem is an important model for social network analysis and other studies. In this study, we present an effective frequency-driven multi-neighborhood tabu search algorithm (FD-TS) to solve the problem on very large networks. The proposed FD-TS algorithm relies on two transformation operators (Add and Swap) to locate high-quality solutions, and a frequency-driven perturbation operator (Press) to escape and search beyond the identified local optimum traps. We report computational results for 47 massive real-life (sparse) graphs from the SNAP Collection and the 10th DIMACS Challenge, as well as 52 (dense) graphs from the 2nd DIMACS Challenge (results for 48 more graphs are also provided in the Appendix). We demonstrate the effectiveness of our approach by presenting comparisons with the current best-performing algorithms.
URL de la notice	http://okina.univ-angers.fr/publications/ua15969 [7]
DOI	10.1016/j.cor.2017.05.005 [8]
Lien vers le document	http://www.sciencedirect.com/science/article/pii/S0305054817301156 [9]
Titre abrégé	Computers & Operations Research

Liens

[1] http://okina.univ-angers.fr/publications?f%5Bauthor%5D=26863
[2] http://okina.univ-angers.fr/jinkao.hao/publications
[3] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=23008
[4] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=8793
[5] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=23009

[6] http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=23010
[7] http://okina.univ-angers.fr/publications/ua15969
[8] http://dx.doi.org/10.1016/j.cor.2017.05.005
[9] http://www.sciencedirect.com/science/article/pii/S0305054817301156