



Multiple phase tabu search for bipartite boolean quadratic programming with partitioned variables

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Auteur	Shang, Zhen [1], Zhao, Songzheng [2], Hao, Jin-Kao [3], Yang, Xue [4], Ma, Fuda [5]
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Mots-clés	Binary quadratic programming [6], graph theory [7], Hybrid metaheuristic [8], tabu search [9]
Résumé en anglais	<p>The Bipartite Boolean Quadratic Programming Problem with Partitioned Variables (BBQP-PV) is an NP-hard problem with many practical applications. In this study, we present an effective multiple phase tabu search algorithm for solving BBQP-PV. The algorithm is characterized by a joint use of three key components: two tabu search phases that employ a simple neighborhood and a very large-scale neighborhood to achieve search intensification, and a hybrid perturbation phase that adaptively chooses a greedy perturbation or a recency-based perturbation for search diversification. Experimental assessment on 50 standard benchmarks indicates that the proposed algorithm is able to obtain improved lower bounds for 5 instances and match the previously best solutions for most instances, while achieving this performance within competitive time. Additional analysis confirms the importance of the innovative search components.</p>
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Liens

[1] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=39825>

[2] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=39826>

- [3] <http://okina.univ-angers.fr/jinkao.hao/publications>
- [4] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=39827>
- [5] <http://okina.univ-angers.fr/publications?f%5Bauthor%5D=25615>
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- [9] <http://okina.univ-angers.fr/publications?f%5Bkeyword%5D=8662>
- [10] <http://okina.univ-angers.fr/publications/ua20337>
- [11] <http://dx.doi.org/10.1016/j.cor.2018.10.009>
- [12] <https://www.sciencedirect.com/science/article/pii/S0305054818302685?via%3Dihub>

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