

## Path relinking for the fixed spectrum frequency assignment problem

Submitted by Jin-Kao Hao on Mon, 01/26/2015 - 10:31

Titre Path relinking for the fixed spectrum frequency assignment problem

Type de publication Article de revue

Auteur Lai, Xiangjing [1], Hao, Jin-Kao [2]

Editeur Elsevier

Type Article scientifique dans une revue   comit  de lecture

Ann e 2015

Langue Anglais

Pagination 4755-4767

Volume 42(10)

Titre de la revue Expert Systems with Applications

ISSN 0957-4174

R sum  en anglais

The fixed spectrum frequency assignment problem (FS-FAP) is a highly relevant application in modern wireless systems. This paper presents the first path relinking (PR) approach for solving FS-FAP. We devise four relinking operators to generate intermediate solutions (or paths) and a tabu search procedure for local optimization. We also adopt a diversity-and-quality technique to maintain population diversity. To show the effectiveness of the proposed approach, we present computational results on the set of 42 benchmark instances commonly used in the literature and compare them with the current best results obtained by any other existing methods. By showing improved best results (new upper bounds) for 19 instances, we demonstrate the effectiveness of the proposed PR approach. We investigate the impact of the relinking operators and the population updating strategy. The ideas of the proposed could be applicable to other frequency assignment problems and search problems.

URL de la notice <http://okina.univ-angers.fr/publications/ua7075> [3]

DOI 10.1016/j.eswa.2015.01.025 [4]

Lien vers le document <http://dx.doi.org/10.1016/j.eswa.2015.01.025> [4]

---

### Liens

[1] [http://okina.univ-angers.fr/publications?f\[author\]=25597](http://okina.univ-angers.fr/publications?f[author]=25597)

[2] <http://okina.univ-angers.fr/jinkao.hao/publications>

[3] <http://okina.univ-angers.fr/publications/ua7075>

[4] <http://dx.doi.org/10.1016/j.eswa.2015.01.025>

Publi  sur *Okina* (<http://okina.univ-angers.fr>)