

SUGGESTIONS D’ARTICLES

Une lecture d’article est organisée dans le cadre du cours programmation mathématique et applications industrielles. Voici une liste d’articles que nous vous recommandons et qui illustrent bien une partie du cours. Piochez-y les articles qui vous intéressent.

Pour le contrôle continu : seul ou par groupe de deux, vous choisissez plus particulièrement un article de cette liste pour en faire une lecture approfondie. De ce travail personnel de l’article, vous rédigez une fiche de lecture (2 pages, à rendre début janvier 2015) et préparez une présentation orale (20 min, date à fixer). La qualité de la fiche et de la présentation donnera lieu à une évaluation (30% de la note finale).

Bonne lecture et bon travail.

- Articles de revue (“survey”)
 - Lagrangian Relaxation – [Lem01]
 - Reformulation and Decomposition of Integer Programs – [VW10]
- Articles plutôt théoriques (maths ou algo)
 - Comparison of bundle and classical column generation – [BLM⁺08]
 - Extended formulations, non-negative factorizations and randomized communication protocols – [FFGT11]
 - Exponential Lower Bounds for Polytopes in Combinatorial Optimization – [FMP⁺11]
 - A Short Proof that the Extension Complexity of the Correlation Polytope Grows Exponentially – [KW13]
- Articles orientés vers les applications
 - Bundle Methods in Stochastic Optimal Power Management – [BLRS01]
 - An effective heuristic for large-scale capacitated facility location problems – [ABSe09]
 - A tighter formulation of the p-median problem – [Ell10]
 - The Single Period Coverage Facility Location Problem – [ASFHP10]
 - Uncommon Dantzig-Wolfe Reformulation for the Temporal Knapsack Problem – [CFM12]
 - Prices stabilization for inexact unit-commitment problems – [ZM13]

References

- [ABSe09] Pasquale Avella, Maurizio Boccia, Antonio Sforza, and Igor Vasil ev. An effective heuristic for large-scale capacitated facility location problems. *Journal of Heuristics*, 15:597–615, 2009. DOI 10.1007/s10732-008-9078-y.

- [ASFHP10] Maria Albareda-Sambola, Elena Fernandez, Yolanda Hinojosa, and Justo Puerto. The single period coverage facility location problem: Lagrangean heuristic and column generation approaches. *TOP*, 18:43–61, 2010. DOI 10.1007/s11750-009-0102-7.
- [BLM⁺08] O. Briant, C. Lemarchal, Ph. Meurdesoif, S. Michel, N. Perrot, and F. Vanderbeck. Comparison of bundle and classical column generation. *Mathematical Programming*, 113(2):299–344, 2008.
- [BLRS01] Léonard Bacaud, Claude Lemaréchal, Arnaud Renaud, and Claudia Sagastizbal. Bundle methods in stochastic optimal power management: A disaggregated approach using preconditioners. *Computational Optimization and Applications*, 20(3):227–244, 2001.
- [CFM12] Alberto Caprara, Fabio Furini, and Enrico Malagutti. Uncommon dantzig-wolfe reformulation for the temporal knapsack problem. *INFORMS Journal on Computing*, pages 1–12, 2012. DOI 10.1287/ijoc.1120.0521.
- [Ell10] Sourour Elloumi. A tighter formulation of the p-median problem. *Journal of Combinatorial Optimization*, 19:69–83, 2010. DOI 10.1007/s10878-008-9162-0.
- [FFGT11] Yuri Faenza, Samuel Fiorini, Roland Grappe, and Hans Raj Tiwary. Extended formulations, non-negative factorizations and randomized communication protocols. *CoRR*, abs/1105.4127, 2011.
- [FMP⁺11] S. Fiorini, S. Massar, S. Pokutta, H. R. Tiwary, and R. de Wolf. Exponential Lower Bounds for Polytopes in Combinatorial Optimization. *ArXiv e-prints*, November 2011.
- [KW13] Volker Kaibel and Stefan Weltge. A short proof that the extension complexity of the correlation polytope grows exponentially. arXiv:1307.3543, August 2013.
- [Lem01] Claude Lemaréchal. Lagrangian relaxation. In Michael Junger and Denis Naddef, editors, *Computational Combinatorial Optimization*, volume 2241 of *Lecture Notes in Computer Science*, pages 112–156. Springer Berlin Heidelberg, 2001.
- [VW10] François Vanderbeck and Laurence A. Wolsey. Reformulation and decomposition of integer programs. In Michael Junger, Thomas M. Liebling, Denis Naddef, George L. Nemhauser, William R. Pulleyblank, Gerhard Reinelt, Giovanni Rinaldi, and Laurence A. Wolsey, editors, *50 Years of Integer Programming 1958-2008*, pages 431–502. Springer Berlin Heidelberg, 2010.
- [ZM13] Sofia Zaourar and Jérôme Malick. Prices stabilization for inexact unit-commitment problems. *Mathematical Methods of Operations Research*, 78(3):341–359, 2013.