

1. Record Nr.	UNINA9910254277603321
Titolo	Models, Algorithms, and Technologies for Network Analysis : NET 2016, Nizhny Novgorod, Russia, May 2016 // edited by Valery A. Kalyagin, Alexey I. Nikolaev, Panos M. Pardalos, Oleg A. Prokopyev
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-56829-9
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XIII, 277 p. 57 illus.)
Collana	Springer Proceedings in Mathematics & Statistics, , 2194-1017 ; ; 197
Disciplina	658.4032
Soggetti	Algorithms Operations research Management science Discrete mathematics Mathematical models Operations Research, Management Science Discrete Mathematics Mathematical Modeling and Industrial Mathematics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Linear Max Min Fairness in Multi-commodity Flow Networks (Hamoud Bin Obaid, Theodore B. Trafalis) -- Heuristic for Maximizing Grouping Efficiency in the Cell Formation Problem (Ilya Bychkov, Mikhail Batsyn, Panos M. Pardalos) -- Efficient Methods of Multicriterial Optimization Based on the Intensive Use of Search Information (Victor Gergel, Evgeny Kozinov) -- Comparison of two heuristic algorithms for a location and design problem (Alexander Gnusarev) -- A Class of Smooth Modification of Space-Filling Curves for Global Optimization Problems (Alexey Goryachih) -- Iterative Local Search Heuristic for Truck and Trailer Routing Problem (Ivan S. Grechikhin) -- Power in network structures (Fuad Aleskerov, Natalia Meshcheryakova, Sergey Shvydun) -- Do logarithmic proximity measures outperform plain ones in graph clustering? (Vladimir Ivashkin, Pavel Chebotarev) -- Analysis of Russian Power Transmission Grid Structure: Small World Phenomena Detection

(Sergey Makrushin) -- A new approach to network decomposition problems (Alexander Rubchinsky) -- Homogeneity hypothesis testing for degree distribution in the market graph (Semenov D.P., Koldanov P. A.) -- Network Analysis of International Migration (Fuad Aleskerov, Natalia Meshcheryakova, Anna Rezyapova, Sergey Shvydun) -- Overlapping community detection in social networks with node attributes by neighborhood influence (Vladislav Chesnokov) -- Testing hypothesis on degree distribution in the market graph (Koldanov P.A., Larushina J.D.) -- Application of network analysis for FMCG distribution channels (Nadezda Kolesnik, Valentina Kuskova, Olga Tretyak) -- Machine learning application to human brain network studies: a kernel approach (Anvar Kurmukov, Yulia Dodonova, Leonid Zhukov) -- Co-author Recommender System (Ilya Makarov, Oleg Bulanov, Leonid Zhukov) -- Network Studies in Russia: From Articles to the Structure of a Research Community (Daria Maltseva, Iliia Karpov). <

Sommario/riassunto

This valuable source for graduate students and researchers provides a comprehensive introduction to current theories and applications in optimization methods and network models. Contributions to this book are focused on new efficient algorithms and rigorous mathematical theories, which can be used to optimize and analyze mathematical graph structures with massive size and high density induced by natural or artificial complex networks. Applications to social networks, power transmission grids, telecommunication networks, stock market networks, and human brain networks are presented. Chapters in this book cover the following topics: Linear max min fairness Heuristic approaches for high-quality solutions Efficient approaches for complex multi-criteria optimization problems Comparison of heuristic algorithms New heuristic iterative local search Power in network structures Clustering nodes in random graphs Power transmission grid structure Network decomposition problems Homogeneity hypothesis testing Network analysis of international migration Social networks with node attributes Testing hypothesis on degree distribution in the market graphs Machine learning applications to human brain network studies This proceeding is a result of The 6th International Conference on Network Analysis held at the Higher School of Economics, Nizhny Novgorod in May 2016. The conference brought together scientists and engineers from industry, government, and academia to discuss the links between network analysis and a variety of fields.
