DISCRETE MATHEMATICS AND APPLICATIONS

EDITOR-IN-CHIEF

Andrei M. Zubkov, Moscow

EDITORIAL BOARD

Valery B. Alekseev, Moscow Vladimir N. Chubarikov, Moscow Yuri L. Ershov, Novosibirsk Grigory I. Ivchenko, Moscow Yurii S. Kharin, Minsk Vadim V. Kochergin, Moscow Yuri I. Medvedev, Moscow Vladimir G. Mikhailov, Moscow Yuri L. Pavlov, Petrozavodsk Boris A. Pogorelov, Moscow Eduard A. Primenko, Moscow Vladimir N. Sachkov, Moscow Dmitry A. Shabanov, Moscow Vladimir A. Vatutin, Moscow

ADVISORY BOARD

Vladimir A. Emelichev, Minsk Yuri L. Ershov, Novosibirsk Yuri I. Matiyasevich, St. Petersburg Lev Ya. Savelyev, Novosibirsk Sergei A. Stepanov, Moscow

DE GRUYTER

DISCRETE MATHEMATICS AND APPLICATIONS provides the latest information on the development of discrete mathematics in Russia to a world-wide readership. The journal contains papers from the Russian-language journal *Diskretnaya Matematika*, the only journal of the Russian Academy of Sciences devoted to this field of mathematics. *Discrete Mathematics and Applications* covers various subjects in the fields such as combinatorial analysis, graph theory, functional systems theory, cryptology, coding, probabilistic problems of discrete mathematics, algorithms and their complexity, combinatorial and computational problems of number theory and of algebra. The journal is published bimonthly, simultaneously with the Russian edition as a cover-to-cover translation. Issues contain, in addition to original articles and reviews in the above-mentioned subject areas, reviews of books published in and outside Russia and information notes.

All information regarding subscriptions, Open access, back volumes and orders is available online at www.degruyter.com/dma.

ABSTRACTED/INDEXED IN Baidu Scholar · CNKI Scholar (China National Knowledge Infrastructure) · CNPIEC: cnpLINKer · Dimensions · EBSCO (relevant databases) · EBSCO Discovery Service · Ei Compendex · Engineering Village · Genamics JournalSeek · Google Scholar · Japan Science and Technology Agency (JST) · J-Gate · JournalGuide · JournalTOCs · KESLI-NDSL (Korean National Discovery for Science Leaders) · Mathematical Reviews (MathSciNet) · MathNET · MyScienceWork · Naver Academic · Naviga (Softweco) · Primo Central (ExLibris) · ProQuest (relevant databases) · Publons · QOAM (Quality Open Access Market) · ReadCube · Scilit · SCImago (SJR) · SCOPUS · Semantic Scholar · Sherpa/RoMEO · Summon (ProQuest) · TDNet · Ulrich's Periodicals Directory/ulrichsweb · WanFang Data · Web of Science: Emerging Sources Citation Index · WorldCat (OCLC) · X-MOL · Yewno Discover · zbMATH Open.

ISSN 0924-9265 · e-ISSN 1569-3929 · CODEN DMAPEW

RESPONSIBLE EDITOR Alexander A. Serov, Steklov Mathematical Institute, Russian Academy of Sciences, Gubkina str. 8, 119991, Moscow, Russia, e-mail: seroy@mi.ras.ru

PUBLISHER Walter de Gruyter GmbH, Berlin/Boston, Genthiner Straße 13, 10785 Berlin, Germany

JOURNAL COORDINATOR Natalia Białka, e-mail: natalia.bialka@degruyter.com

RESPONSIBLE FOR ADVERTISEMENTS e-mail: anzeigen@degruyter.com

© 2023 Walter de Gruyter GmbH, Berlin/Boston, Germany

PRINTING Franz X. Stückle Druck und Verlag e.K., Ettenheim



Contents

Dmitry A. Burov

On scatter properties of modular addition operation over imprimitivity systems of the translation group of the binary vector space —— 127

Alexey N. Chuprunov

On a number of particles in a marked set of cells in a general allocation scheme —— 157

Sergey S. Marchenkov

On the equality problem of finitely generated classes of exponentially-polynomial functions —— 167

Sunny K. Sharma, Hassan Raza, and Vijay K. Bhat Fault-tolerant resolvability of some graphs of convex polytopes —— 177

Vladimir A. Taimanov

On bases of all closed classes of Boolean vector functions —— 189