

ISSN 1225-1763(Print)
ISSN 2234-3024(Online)

대한수학회논문집

MATHEMATICS

COMMUNICATIONS
OF THE KOREAN
MATHEMATICAL SOCIETY
제 28 권 제 4 호 2013

COMMUNICATIONS OF THE KOREAN MATHEMATICAL SOCIETY

VOL. 28, No. 4

October 2013

ISSN 1225-1763(Print)
ISSN 2234-3024(Online)

COMMUNICATIONS OF THE KOREAN MATHEMATICAL SOCIETY

Since its inception in 1986, this journal endeavors to publish significant research and survey of broad interests in pure and applied mathematics. One volume is published each year, and each volume consists of four issues (January, April, July, October).

Editorial Policy

To be published in the *Communications*, a paper must be correct, new, nontrivial, and significant. The *Communications* also publishes good survey papers and can issue special volumes for specific topics.

Submission of Manuscripts

See **Information for Authors** at the end of this issue.

Copyright

A Copyright Transfer Agreement is required before the publication of a paper in this journal. The submission of a paper implies the author's assurance that it has not been copyrighted, published, or submitted for publication elsewhere.

Subscriptions

The subscription price is US\$50 per year to individuals, US\$100 per year to institutions. Members of the KMS receive exclusive discount on annual subscriptions to KMS journals. Correspondences regarding subscriptions, membership, and notices of change of address should be sent to:

The Korean Mathematical Society, The Korea Science and Technology Center 202,
22, 7 Gil, Teheran-ro, Gangnam-gu, Seoul 135-703, Korea
E-mail: kms@kms.or.kr

Publications of the Society

The KMS publishes three research periodicals, the *Journal*, the *Bulletin*, and the *Communications*. The *Journal* and *Bulletin* are published bimonthly and the *Communications* is published quarterly.

Indexing and Abstracting Services

Articles published in this journal are indexed on abstracted in *Mathematical Reviews* and *SCOPUS*.

© *The Korean Mathematical Society*, 2013
Published by the Korean Mathematical Society
Printed in Korea, October 2013

This journal was supported by the Korean Federation of Science and Technology Societies Grant funded by the Korean Government.

Continued from back cover

GEOMETRY

YUNHI CHO

An elementary proof of Sforza-Santaló relation for spherical and
hyperbolic polyhedra 799

DAE HO JIN

Two characterization theorems for irrotational lightlike geometry ... 809

TOPOLOGY

XINXING WU AND PEIYONG ZHU

Generalized product topology 819

APPLIED MATHEMATICS

SERGIO FALCON

Catalan transform of the k -Fibonacci sequence 827

IK-SUNG KIM AND WILLIAM MCLEAN

Computing the Hausdorff distance between two sets of parametric
curves 833

VIRENDRA SINGH DHAKAR AND KISHAN SHARMA

On a recurrence relation of k -Mittag-Leffler function 851

XUE-GANG CHEN AND MOO YOUNG SOHN

Total dominations in P_6 -free graphs 857

CONTENTS

ALGEBRA AND NUMBER THEORY

FATEMEH VOSOOGHPOUR, ZEINAB KARGARIAN, AND MEHRI AKHAVAN-MALAYERI	
Commuting automorphism of p -groups with cyclic maximal subgroups ······	643
JU-MOK OH	
An explicit formula for the number of subgroups of a finite abelian p -group up to rank 3 ······	649
P. DHEENA AND C. JENILA	
Topological conditions of NI near-rings ······	669
YOUNG BAE JUN, KYOUNG JA LEE, AND MIN SU KANG	
A new type of hyper K -subalgebras ······	679
MOHAMMAD ASHRAF AND MOHAMMAD ASLAM SIDDEEQUE	
On permuting n -derivations in near-rings ······	697
SUN SHIN AHN AND JUNG MI KO	
Coupled \mathcal{N} -structures applied to ideals in d -algebras ······	709
SUNG SIK WOO	
Bachet equations and cubic resolvents ······	723
DONGHO BYEON, JIAE KEEM, AND SANGYOON LEE	
Real quadratic function fields of minimal type ······	735

ANALYSIS

MI RYEONG LEE AND HYE YEONG YUN	
On quasi- $A(n, k)$ class operators ······	741
CUNG THE ANH AND LE THI THUY	
Long-time behavior for semilinear degenerate parabolic equations on \mathbb{R}^N ······	751
LAHBIB OUBBI	
Hyers-Ulam stability of mappings from a ring A into an A -bimodule	767
SEBASTIEN GABOURY, MEHMET ALI ÖZARSLAN, AND RICHARD TREMBLAY	
Some bilateral generating functions involving the Chan-Chyan- Srivastava polynomials and some general classes of multivariable polynomials ······	783