St. Petersburg Mathematical Journal

(Formerly Leningrad Mathematical Journal)

Volume 28 Number 4 August 2017

A Translation of

РОССИЙСКАЯ АКАДЕМИЯ НАУК

АЛГЕБРА и АНАЛИЗ

TOM 28 № 4 2016



American Mathematical Society

Providence, Rhode Island USA ISSN 1061-0022 (print) ISSN 1547-7371 (online)

ST. PETERSBURG MATHEMATICAL JOURNAL

(Formerly Leningrad Mathematical Journal)

A translation of the Russian bimonthly

Алгебра и анализ

"Наука", С.-Петербургское отделение, 2016 г.

Editor-in-Chief: S. V. Kislyakov

Editorial Board

N. Yu. Netsyetaev

A. N. Andrianov
(Deputy Editor-in-Chief)

V. M. Babich
A. D. Baranov
(Executive Secretary)

S. V. Buyalo
O. Ya. Viro

N. K. Nikol'skiĭ
A. N. Parshin
M. A. Semenov-Tyan-Shanskiĭ
A. A. Suslin
T. A. Suslina
N. N. Ural'tseva
(Deputy Editor-in-Chief)

P. P. Kulish A. L. Chistov A. V. Malyutin A. V. Yakovlev

A. B. Aleksandrov

SUBSCRIPTION INFORMATION. The 2017 subscription is for one volume of six issues. Beginning in 2004, St. Petersburg Mathematical Journal is accessible from www.ams.org/journals/. Subscription prices for Volume 28 are as follows: for paper delivery, US\$2456 list, US\$1964.80 institutional member; for electronic delivery, US\$2333 list, US\$1866.40 institutional member. Upon request, subscribers to paper delivery of this journal are also entitled to receive electronic delivery. If ordering the paper version, add US\$5.50 for delivery within the United States; US\$20 for delivery outside the United States. Subscription renewals are subject to late fees. See www.ams.org/journal-faq for more journal subscription information.

BACK NUMBER INFORMATION. For back issues see www.ams.org/backvols.

Orders for subscriptions and publications of the American Mathematical Society should be addressed to the American Mathematical Society, P.O. Box 845904, Boston, MA 02284-5904 USA. *All orders must be accompanied by payment*. Other correspondence should be addressed to 201 Charles Street, Providence, RI 02904-2294 USA.

COPYING AND REPRINTING. Individual readers of this publication, and nonprofit libraries acting for them, are permitted to make fair use of the material, such as to copy an article for use in teaching or research. Permission is granted to quote brief passages from this publication in reviews, provided the customary acknowledgment of the source is given.

Republication, systematic copying, or multiple reproduction of any material in this publication is permitted only under license from the American Mathematical Society. Permissions to reuse portions of AMS publication content are handled by Copyright Clearance Center's RightsLink® service. For more information, please visit: http://www.ams.org/rightslink.

Translation rights and licensed reprint requests should be sent to:

reprint-permission@ams.org.

Excluded from these provisions is material in articles for which the author holds copyright. In such cases, requests for permission to use or reprint should be addressed directly to the author(s). (Copyright ownership is indicated in the notice in the lower right-hand corner of the first page of each article.)

St. Petersburg Mathematical Journal (ISSN 1061-0022 (print); ISSN 1547-7371 (online)) is published bimonthly by the American Mathematical Society, 201 Charles Street, Providence, RI 02904-2294 USA. Periodicals postage paid at Providence, Rhode Island. Postmaster: Send address changes to St. Petersburg Mathematical Journal, American Mathematical Society, 201 Charles Street, Providence, RI 02904-2294 USA.

Manuscripts should be addressed to "Algebra i Analiz", St. Petersburg Publishing Company of the Russian Academy of Sciences, Mendeleevskaya Liniya 1, St. Petersburg 199034, Russia. Submitting simultaneously a tex-file to the address pmj@pdmi.ras.ru is highly appreciated.

© 2017 American Mathematical Society. All rights reserved.

This journal is indexed in Mathematical Reviews and Zentralblatt MATH.

This journal is archived in *Portico* and in *CLOCKSS*.

Translation authorized by the All-Union Agency for Author's Rights, Moscow.

Printed in the United States of America.

⊗ The paper used in this journal is acid-free and falls within the guidelines established to ensure permanence and durability.

10 9 8 7 6 5 4 3 2 1 22 21 20 19 18 17

St. Petersburg Mathematical Journal

Volume 28 Number 4 August 2017

A Translation of

РОССИЙСКАЯ АКАДЕМИЯ НАУК

АЛГЕБРА и АНАЛИЗ

TOM 28 № 4 2016



American Mathematical Society

Providence, Rhode Island USA ISSN 1061-0022 (print) ISSN 1547-7371 (online)

ST. PETERSBURG MATHEMATICAL JOURNAL

(Formerly Leningrad Mathematical Journal)

A translation of the Russian bimonthly

Алгебра и анализ

"Наука", С.-Петербургское отделение, 2016 г.

Editor-in-Chief: S. V. Kislyakov

Editorial Board

N. Yu. Netsyetaev

A. N. Andrianov
(Deputy Editor-in-Chief)

V. M. Babich
A. D. Baranov
(Executive Secretary)

S. V. Buyalo
O. Ya. Viro

N. K. Nikol'skiĭ
A. N. Parshin
M. A. Semenov-Tyan-Shanskiĭ
A. A. Suslin
T. A. Suslina
N. N. Ural'tseva
(Deputy Editor-in-Chief)

P. P. Kulish A. L. Chistov A. V. Malyutin A. V. Yakovlev

A. B. Aleksandrov

SUBSCRIPTION INFORMATION. The 2017 subscription is for one volume of six issues. Beginning in 2004, St. Petersburg Mathematical Journal is accessible from www.ams.org/journals/. Subscription prices for Volume 28 are as follows: for paper delivery, US\$2456 list, US\$1964.80 institutional member; for electronic delivery, US\$2333 list, US\$1866.40 institutional member. Upon request, subscribers to paper delivery of this journal are also entitled to receive electronic delivery. If ordering the paper version, add US\$5.50 for delivery within the United States; US\$20 for delivery outside the United States. Subscription renewals are subject to late fees. See www.ams.org/journal-faq for more journal subscription information.

BACK NUMBER INFORMATION. For back issues see www.ams.org/backvols.

Orders for subscriptions and publications of the American Mathematical Society should be addressed to the American Mathematical Society, P.O. Box 845904, Boston, MA 02284-5904 USA. *All orders must be accompanied by payment*. Other correspondence should be addressed to 201 Charles Street, Providence, RI 02904-2294 USA.

COPYING AND REPRINTING. Individual readers of this publication, and nonprofit libraries acting for them, are permitted to make fair use of the material, such as to copy an article for use in teaching or research. Permission is granted to quote brief passages from this publication in reviews, provided the customary acknowledgment of the source is given.

Republication, systematic copying, or multiple reproduction of any material in this publication is permitted only under license from the American Mathematical Society. Permissions to reuse portions of AMS publication content are handled by Copyright Clearance Center's RightsLink® service. For more information, please visit: http://www.ams.org/rightslink.

Translation rights and licensed reprint requests should be sent to:

reprint-permission@ams.org.

Excluded from these provisions is material in articles for which the author holds copyright. In such cases, requests for permission to use or reprint should be addressed directly to the author(s). (Copyright ownership is indicated in the notice in the lower right-hand corner of the first page of each article.)

St. Petersburg Mathematical Journal (ISSN 1061-0022 (print); ISSN 1547-7371 (online)) is published bimonthly by the American Mathematical Society, 201 Charles Street, Providence, RI 02904-2294 USA. Periodicals postage paid at Providence, Rhode Island. Postmaster: Send address changes to St. Petersburg Mathematical Journal, American Mathematical Society, 201 Charles Street, Providence, RI 02904-2294 USA.

Manuscripts should be addressed to "Algebra i Analiz", St. Petersburg Publishing Company of the Russian Academy of Sciences, Mendeleevskaya Liniya 1, St. Petersburg 199034, Russia. Submitting simultaneously a tex-file to the address pmj@pdmi.ras.ru is highly appreciated.

© 2017 American Mathematical Society. All rights reserved.

This journal is indexed in Mathematical Reviews and Zentralblatt MATH.

This journal is archived in *Portico* and in *CLOCKSS*.

Translation authorized by the All-Union Agency for Author's Rights, Moscow.

Printed in the United States of America.

⊗ The paper used in this journal is acid-free and falls within the guidelines established to ensure permanence and durability.

10 9 8 7 6 5 4 3 2 1 22 21 20 19 18 17

CONTENTS

Research Papers

A. I. Abdulnagimov and A. S. Krivosheyev, Regularly distributed subsets	
in the complex plane	433
A. Bak and A. Stepanov, Subring subgroups of symplectic groups in	
characteristic 2	465
V. N. Berestovskii and I. A. Zubareva, Sub-Riemannian distance on the Lie	
group $SO_0(2,1)$	477
V. G. Zhuravlev, Symmetrization of bounded remainder sets	491
D. V. Korikov and B. A. Plamenevskii, Asymptotics of solutions of the	
stationary and nonstationary Maxwell systems in a domain with small	
cavities	507

RUSSIAN CONTENTS *

содержание

Статьи

Абдулнагимов А. И., Кривошеев А. С. Правильно распреде-	
ленные подмножества в комплексной плоскости	1
Bak A., Stepanov A. Subring subgroups in symplectic groups in	
characteristic 2	47
Берестовский В. Н., Зубарева И. А. Субриманово расстоя-	
ние в группе Ли $SO_0(2,1)$	62
Журавлев В. Г. Симметризация множеств ограниченного ос-	
татка	80
Кориков Д. В., Пламеневский Б. А. Асимптотика решений	
стационарной и нестационарной систем Максвелла в обла-	
сти с малыми отверстиями	102

 $^{^*}$ The American Mathematical Society scheme for transliteration of Cyrillic may be found at the end of index issues of $Mathematical\ Reviews$.

1061-0022(201708)28:4;1-3