

St. Petersburg Mathematical Journal

(Formerly Leningrad Mathematical Journal)

Volume 15 Number 5 2004

A Translation of

РОССИЙСКАЯ АКАДЕМИЯ НАУК

АЛГЕБРА

И

АНАЛИЗ

ТОМ 15 ВЫПУСК 5 2003



American Mathematical Society

Providence, Rhode Island USA

ISSN 1061-0022

ST. PETERSBURG MATHEMATICAL JOURNAL

(Formerly Leningrad Mathematical Journal)

A translation of the Russian bimonthly

Алгебра и анализ

“Наука”, С.-Петербургское отделение, 2003 г.

Editorial Board

A. B. Aleksandrov (Executive Secretary)	N. Yu. Netsvetaev N. K. Nikol'skiĭ (Managing Editor)
A. N. Andrianov (Managing Editor)	A. N. Parshin
V. M. Babich	M. A. Semenov-Tyan-Shanskiĭ
M. Sh. Birman	A. O. Slisenko
V. S. Buslaev	A. A. Suslin
S. V. Buyalo	N. N. Ural'tseva
O. Ya. Viro	V. P. Khavin
S. V. Kislyakov (Managing Editor)	A. V. Yakovlev

SUBSCRIPTION INFORMATION. The 2004 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 15 are \$1546 list, \$1237 institutional member. Upon request, subscribers to paper delivery of this journal are also entitled to receive electronic delivery. For paper delivery, subscribers outside the United States and India must pay a postage surcharge of \$14; subscribers in India must pay a postage surcharge of \$23. Expedited delivery to destinations in North America \$21; elsewhere \$56. A late charge of 10% of the subscription price will be imposed upon orders received from nonmembers after January 1 of the subscription year.

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

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. Material in this journal may be reproduced by any means for educational and scientific purposes without fee or permission with the exception of reproduction by services that collect fees for delivery of documents and provided that the customary acknowledgment of the source is given. This consent does not extend to other kinds of copying for general distribution, for advertising or promotional purposes, or for resale. Requests for permission for commercial use of material should be addressed to the Acquisitions Department, American Mathematical Society, 201 Charles Street, Providence, RI 02904-2294 USA. Requests can also be made by e-mail to reprint-permission@ams.org.

St. Petersburg Mathematical Journal 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.

© 2004 American Mathematical Society. All rights reserved.

This journal is indexed in *Mathematical Reviews* and *Zentralblatt MATH*.

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 09 08 07 06 05 04

(Continued from back cover)

<i>Гамаль М. Ф. C_0-сжатия: Жорданова модель и решетки инвариантных подпространств</i>	<i>198</i>
<i>Смирнов С. В. Циклические q-цепочки</i>	<i>228</i>

St. Petersburg Mathematical Journal
(Formerly Leningrad Mathematical Journal)

Volume 15 Number 5 2004 (Fifth of 6 Numbers)

РОССИЙСКАЯ АКАДЕМИЯ НАУК
АЛГЕБРА И АНАЛИЗ
ТОМ 15 · ВЫПУСК 5 2003

Expository Survey

- M. Sh. Birman and T. A. Suslina, Second order periodic differential operators. Threshold properties and homogenization 639

Research Papers

- A. N. Andrianov, Action of Hecke operators on theta-functions with rational characteristics 715
A. D. Baranov, Weighted Bernstein-type inequalities, and embedding theorems for the model subspaces 733
Vit. V. Volchkov and N. P. Volchkova, Inversion Theorems for the local Pompeiu transformation in the quaternion hyperbolic space 753
M. F. Gamal', C_0 -contractions: a Jordan model and lattices of invariant subspaces 773
S. V. Smirnov, Cyclic Darboux q -chains 795

СОДЕРЖАНИЕ

Обзоры

- Бирман М. Ш., Суслина Т. А. Периодические дифференциальные операторы второго порядка. Пороговые свойства и усреднения 1

Статьи

- Андрианов А. Н. Действие операторов Гекке на тета-функции с рациональными характеристиками 109
Баранов А. Д. Весовые неравенства Бернштейна и теоремы вложения для модельных подпространств 138
Волчков Вит. В., Волчкова Н. П. Теоремы об обращении локального преобразования Помпейю на кватернионном гиперболическом пространстве 169

(Continued on inside back cover)

The American Mathematical Society scheme for transliteration of Cyrillic may be found at the end of index issues of *Mathematical Reviews*



1061-0022(2004)15:5;1-5