

Arnold's Problems

Edited by Vladimir I. Arnold



Springer

PHASIS



Vladimir I. Arnold
Steklov Mathematical Institute
ul. Gubkina 8
117966 Moscow, Russia
e-mail: arnold@genesis.mi.ras.ru
and
CEREMADE
Université de Paris-Dauphine
Place du Maréchal de Lattre de Tassigny
75775 Paris Cedex 16, France
e-mail: arnold@ceremade.dauphine.fr

Originally published in Russian as "Zadachi Arnolda"
by PHASIS, Moscow, Russia, 2000 (ISBN 5-7036-0060-X)

Library of Congress Control Number: 2004106678

A hardcover edition of this book is available with the same title
with the ISBN 3-540-20614-0

Mathematics Subject Classification (2000): 00-02

ISBN 3-540-20748-1 Springer-Verlag Berlin Heidelberg New York

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilm or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer-Verlag. Violations are liable to prosecution under the German Copyright Law.

Springer-Verlag is a part of Springer Science+Business Media
springeronline.com

© Springer-Verlag Berlin Heidelberg and PHASIS Moscow 2005
Printed in Germany

The use of general descriptive names, registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Edited by PHASIS using a special \LaTeX macro package
Cover design: Erich Kirchner, Heidelberg

Printed on acid-free paper 46/3142/LK - 5 4 3 2 1 0

Contents

Author's Preface to the Second Edition	V
Author's Preface to the First Edition	VII
Editorial to the Second Edition	XI
Editorial to the First Edition	XIII
The Problems	1
Comments	181
Author Index for Comments	637