

EMS Series of Lectures in Mathematics

Edited by Andrew Ranicki (University of Edinburgh, U.K.)

EMS Series of Lectures in Mathematics is a book series aimed at students, professional mathematicians and scientists. It publishes polished notes arising from seminars or lecture series in all fields of pure and applied mathematics, including the reissue of classic texts of continuing interest. The individual volumes are intended to give a rapid and accessible introduction into their particular subject, guiding the audience to topics of current research and the more advanced and specialized literature.

Previously published in this series:
Katrin Wehrheim, Uhlenbeck Compactness
Torsten Ekedahl, One Semester of Elliptic Curves
Sergey V. Matveev, Lectures on Algebraic Topology
Joseph C. Várilly, An Introduction to Noncommutative Geometry
Reto Müller, Differential Harnack Inequalities and the Ricci Flow
Eustasio del Barrio, Paul Deheuvels and Sara van de Geer, Lectures on Empirical Processes
Iskander A. Taimanov, Lectures on Differential Geometry
Martin J. Mohlenkamp, María Cristina Pereyra, Wavelets, Their Friends, and What They

Stanley E. Payne and Joseph A. Thas, Finite Generalized Quadrangles

Masoud Khalkhali, Basic Noncommutative Geometry

Can Do for You

Helge Holden, Kenneth H. Karlsen, Knut-Andreas Lie, Nils Henrik Risebro, *Splitting Methods for Partial Differential Equations with Rough Solutions*

Koichiro Harada

"Moonshine" of Finite Groups



Author:

Prof. em. Koichiro Harada Department of Mathematics The Ohio State University 231 West 18th Avenue Columbus, OH 43210-1174 USA

E-mail: harada.1@osu.edu

2010 Mathematics Subject Classification: 20B05, 11F03

Key words: Monster simple group, congruence groups, modular functions, eta function

ISBN 978-3-03719-090-6

The Swiss National Library lists this publication in The Swiss Book, the Swiss national bibliography, and the detailed bibliographic data are available on the Internet at http://www.helveticat.ch.

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, re-use of illustrations, recitation, broadcasting, reproduction on microfilms or in other ways, and storage in data banks. For any kind of use permission of the copyright owner must be obtained.

© 2010 European Mathematical Society

Contact address:
European Mathematical Society Publishing House
Seminar for Applied Mathematics
ETH-Zentrum FLI C4
CH-8092 Zürich
Switzerland
Phases 444 (2)44 C22 24 26

Phone: +41 (0)44 632 34 36 Email: info@ems-ph.org Homepage: www.ems-ph.org

Typeset using the author's T_EX files: I. Zimmermann, Freiburg Printing and binding: Druckhaus Thomas Müntzer GmbH, Bad Langensalza, Germany ∞ Printed on acid free paper

987654321