Vertex Operators for Non-Simply-Laced Algebras 179

On the Existence of Fixed Points of the Composition Operator for Circle Maps 213

On the Local Implementations of Gauge Symmetries in Local Quantum Theory 233

Invariant Circles for the Piecewise Linear Standard Map 241

Highest Weight Representations of the Neveu-Schwarz and Ramond Algebras 263

Symbolic Dynamics for the Renormalization Map of a Quasiperiodic Schrödinger Equation 295

A Phase Cell Approach to Yang-Mills Theory. I. Modes, Lattice-Continuum Duality 319

On a Conformally Invariant Elliptic Equation on $\mathbb{R}^n$ 331

Classical Spin Systems in the Presence of a Wall: Multicomponent Spins 337

Markov Partition for Dispersed Billiards (Erratum) 357
Communications in Mathematical Physics

Copyright. Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that it is not under consideration for publication elsewhere; that its publication is being approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher; and that the manuscript is not being submitted to another journal for consideration anywhere in any language without the consent of the copyright holders. All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e.g., as offprints), as well as all translation rights. No material published in this journal may be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publisher. The use of general descriptive names, trade names, trademarks, etc., in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations. While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors, the editors, nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Special regulations for photocopies in the USA: Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. This fee is US $0.20 per page, or a minimum of US $1.00 if an article contains fewer than five pages. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA, stating the ISSN 0010-3616, the volume, and the first and last page numbers of each article copied. The copyright owner’s consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must first be obtained from the publisher.

Other regulations: Authors publishing in this journal can, under certain conditions, benefit from library and photocopy fees collected by VG WORT. Authors of German nationality and those resident in the Federal Republic of Germany or Berlin (West), as well as citizens of Austria, Switzerland and member countries of the European Community, may apply to Verwertungsgesellschaft WORT, Abteilung Wissenschaft, Goethestrasse 43, D-8000 München 2, for detailed information.

Authors should mark manuscripts according to the “Instructions to Authors.” They should be aware that manuscripts which are not properly marked require additional time for publication. Manuscripts should be sent to:

Prof. M. Aizenman, Hill Center, Busch Campus, Rutgers University, New Brunswick, NJ 08803, USA
Prof. L. Alvarez-Gaumé, until August 31, 1987: Theory Division, CERN, CH-1211 Genève 23, Switzerland. After September 1, 1987: Department of Physics, Boston University, Boston MA 02215, USA
Prof. H. Araki, Research Institute for Mathematical Sciences, Kyoto University, Kyoto, 606, Japan
Prof. J.-P. Eckmann, Departement de Physique Théorique, Université de Genève, 32, Boulevard d’Ivoy, CH-1211 Genève 4, Switzerland
Prof. M. E. Fisher, Baker Laboratory, Department of Chemistry, Cornell University, Ithaca, NY 14850, USA
Prof. J. Fröhlich, ETH-Hönggerberg, CH-8093 Zürich, Switzerland
Prof. K. Gawedzki, I.H.E.S., F-91440 Bures-sur-Yvette, France
Prof. R. Haag, II. Institut für Theoretische Physik, Luruper Chaussee 149, D-2000 Hamburg 50, Federal Republic of Germany
Prof. A. Jaffe, Lyman Laboratory of Physics, Harvard University, Cambridge, MA 02138, USA
Prof. J. L. Lebowitz, Department of Mathematics, Rutgers University, New Brunswick, NJ 08803, USA
Prof. J. Mather, Department of Mathematics, Fine Hall, Princeton University, Princeton, NJ 08544, USA
Prof. K. Osterwalder, E.T.H. Zentrum, CH-8092 Zürich, Switzerland
Prof. G. Parisi, Dipartimento di Fisica, Università di Roma II, Tor Vergata, I-00173 Roma, Italy
Prof. B. Simon, Department of Mathematics, California Institute of Technology, Pasadena, CA 91125, USA
Prof. Ya. G. Sinai, L. D. Landau Institute for Theoretical Physics, ul. Kosygina, dom 2, SU-117334 Moscow, V—334, USSR
Prof. T. Spencer, School of Mathematics, Institute for Advanced Study, Princeton, NJ 08540, USA
Prof. C. H. Taubes, Department of Mathematics, Harvard University, 1 Oxford Street, Cambridge, MA 02138, USA
Prof. S.-T. Yau, Department of Mathematics, University of California at San Diego, La Jolla, CA 92093, USA

Statistical physics

Gravitation, field theories and geometry

Mathematical methods with direct relevance to physics

Dynamical systems

Statistical physics

General statistical mechanics

Quantum field theory and statistical mechanics

Conceptual structure

Chief Editor

Nonequilibrium statistical mechanics

Classical dynamical systems

Constructive quantum field theory and general theory of quantized fields

General theoretical physics

Schrödinger operators and atomic physics

Statistical physics and dynamical systems

Disordered systems

Partial differential equations

Relativity; geometry and physics

100 offprints of each article will be supplied to the author free of charge and additional copies may be obtained at cost price if ordered before the issue goes to press.