## PHYSICAL REVIEW E

## STATISTICAL, NONLINEAR, AND SOFT MATTER PHYSICS

Editor

GARY S. GREST

(Sandia National Laboratories)

Associate Editors

MICHAEL BRENNER
(Harvard University)

BURKHARD DUENWEG

(Max-Planck-Institut fuer Polymerforschung)

BRANT M. JOHNSON

(Brookhaven National Laboratory)

MARGARET MALLOY (APS Editorial Office)

JOHN F. MARKO

(University of Illinois at Chicago)

**ANTONIO POLITI** (Istituto Nazionale di Ottica Applicata)

MARK SAFFMAN

(University of Wisconsin)

JONATHAN SELINGER (Kent State University)

ROBERT ZIFF

(University of Michigan)

Senior Assistant Editors

DIRK JAN BUKMAN

MARGARET FOSTER

Assistant Editors

JILL M. GARGANO VALERIE L. MILLER JOANNA POPADIUK

Senior Editorial Assistant

JOYCE MASTERSON

Editorial Assistants

TERRE ARENA JO-ANNE IZZO EDITORIAL BOARD

Term ending 31 December 2006

H. AREF Fluid Dynamics J. BECHHOEFER Complex Fluids, Biological Physics E. BEN-NAIM Granular Materials B. ECKHARDT Classical Chaos, Quantum Chaos M. GLASER Liquid Crystals C. MOUKARZEL Statistical Physics R. PODGORNIK Polymer Physics, Biological Physics S. RAMASWAMY Complex Fluids T. ROSER Beam Physics B. SCHMITTMANN Statistical Physics

Term ending 31 December 2007

G. AHLERS Critical Phenomena, Turbulence A. BARRAT Statistical Physics, Glasses J.-P. BOUCHAUD Statistical Physics R. BUNDSCHUH Biopolymers Quantum Chaos, Classical Chaos G. CASATI B. DROSSEL Complex Systems W. FIRTH Nonlinear Optics, Optical Patterns, Solitons R. KAPRAL Statistical Mechanics. Nonlinear Dynamics A. J. C. LADD Computational Physics A. A. MARADUDIN Photonic Crystals O. SCHILLING Fluid Mechanics, Turbulence B. YA. ZELDOVICH Electrodynamics

Term ending 31 December 2008

H. CHATÉ Nonlinear and Statistical Physics G. B. ERMENTROUT Computational Neuroscience P. HÄNGGI Statistical and Stochastic Physics T. W. JOHNSTON Plasma Physics A R KERSTEIN Turbulence O. LAVRENTOVICH Liquid Crystals F. LEDERER Photonics, Nonlinear Optics D. LOHSE Turbulence E. MARX Classical and Quantum Physics M. WORTIS Biological and Statistical Physics The American Physical Society

One Physics Ellipse College Park, MD 20740-3844

President
President-Elect
Vice-President
Editor-in-Chief
Treasurer
and Publisher

Executive Officer

John J. Hopfield Leo P. Kadanoff Arthur Bienenstock Martin Blume

THOMAS J. McIlrath Judy R. Franz

**APS Editorial Office** 

1 Research Road, Box 9000 Ridge, NY 11961-9000 Phone: (631) 591-4050 Fax: (631) 591-4141 Email: pre@aps.org Web: http://publish.aps.org/ Submissions: pretex@aps.org or http://authors.aps.org/ESUB/

Member Subscriptions:

**APS Membership Department** 

One Physics Ellipse College Park, MD 20740-3844 Phone: (301) 209-3280 Fax: (301) 209-0867 Email: membership@aps.org

Institutional Subscriptions:

APS Subscription Services Suite 1NO1

Suite INO1 2 Huntington Quadrangle Melville, NY 11747-4502 Phone: (516) 576-2270, (800) 344-6902

Fax: (516) 349-9704 Email: subs@aps.org

Manuscripts should be submitted electronically in acceptable format (see http://authors.aps.org/ESUB/ or inquire at pretex@aps.org). If this is not possible, send one copy to the Editorial Office. Submission is a representation that the manuscript has not been published previously and is not currently under consideration for publication elsewhere. Authors should provide indexing codes according to the PACS scheme (available at http://publish.aps.org/PACS/). An executed APS copyright-transfer form must be provided (effective only on acceptance for publication); the form is available via our Web submission server and via http://authors.aps.org/. Information for contributors may be found on our Web server or in the January and July issues.

To help defray editorial and production expenses, authors of articles which are not submitted in acceptable electronic format are expected to pay a **publication charge** of \$120 plus \$120 per journal page. Acceptable formats are REVTEX (preferred), LETEX, plain TEX; MS Word; PostScript figures. **Reprints** are offered for sale to authors.

For information about **subscription prices** and about the **online version** of the journal, see our Web server, or inquire at assocpub@aps.org. **Member** inquiries regarding **subscriptions**, renewals, address changes, missing or damaged copies, microfilm, and single-copy orders should be addressed to the APS Membership Department. **Institutional subscribers** should address subscription inquiries to APS Subscription Services. For address changes please send both old and new addresses, and if possible, send the mailing label from a recent issue.

Copyright c 2006 by The American Physical Society. All rights reserved. Physical Review  $E^{\text{TM}}$  is a trademark of The American Physical Society.

Rights and Permissions: See http://forms.aps.org/author/copyfaq.html.

Copying: No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the written permission of the publisher, except as stated below. Single copies of individual articles may be made for private use or research. Authorization is given to copy articles beyond the use permitted by Sections 107 and 108 of the U.S. Copyright Law, provided the copying fee of \$23.00 per copy per article is paid to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA.

Reproduction of an entire Article in a reprint collection, or for advertising or promotional purposes, or republication in any form requires permission from APS. Permission must be sought from the Associate Publisher, The American Physical Society, One Physics Ellipse, College Park, MD 20740-3844; email: assocpub@aps.org.

Other Use: Permission is granted to quote from the journal with the customary acknowledgment of the source. Permission must be sought from the APS Associate Publisher to reproduce a figure, table, or excerpt of an Article. Authorization for private use or research does not extend to systematic or multiple reproduction, to copying for promotional purposes, to distribution in any format, or to republication in any form. In all such cases, specific permission from APS must be obtained.

Physical Review E [ISSN: 1539-3755 (print), 1550-2376 (online); CODEN PLEEE8; printed in USA] is published monthly by The American Physical Society, 1 Research Road, Box 9000, Ridge, NY 11961-9000.

POSTMASTER: Send address changes to Physical Review E, APS Subscription Services, Suite 1NO1, 2 Huntington Quadrangle, Melville, NY 11747-4502. The 2006 print + online base price is \$2795. Periodicals postage rates are paid at Huntington Station, NY, and additional mailing offices.