## REVIEWS of MODERN PHYSICS

A quarterly journal seeking to enhance communication among physicists by publishing comprehensive scholarly reviews of physics topics, as well as colloquia and tutorial articles in rapidly developing fields of physics.

ACHIM RICHTER, Technische Universität Darmstadt

The American Physical Society One Physics Ellipse College Park, MD 20740-3844

President

LEO P. KADANOFF President-Elect ARTHUR BIENENSTOCK

Vice-President Editor-in-Chief CHERRY A. MURRAY

MARTIN BLUME

Treasurer

JOSEPH W. SERENE JUDY R. FRANZ

and Publisher

BRUCE W. SHORE, Lawrence Livermore National Laboratory (Emeritus)

Executive Officer

Associate Editors:

Editor:

Colloquia

Editor:

**DIETRICH BELITZ, University of Oregon** Condensed Matter Physics (Theoretical)

J. IGNACIO CIRAC, Max-Planck-Institut für Quantenoptik

Quantum Information

RAYMOND E. GOLDSTEIN, University of Cambridge

Biological Physics

ARTHUR F. HEBARD, University of Florida Condensed Matter Physics (Experimental)

RANDALL D. KAMIEN, University of Pennsylvania

Soft Condensed Matter

DANIEL KLEPPNER, Massachusetts Institute of Technology Atomic, Molecular, and Optical Physics (Experimental)

VERA LÜTH, Stanford University Particle Physics (Experimental)

ANEESH V. MANOHAR, University of California, San Diego

High-Energy Phenomenology

DAVID D. MEYERHOFER, University of Rochester

Physics of Plasmas and Matter at High-Energy Density

WITOLD NAZAREWICZ, University of Tennessee, Oak Ridge National Laboratory Nuclear Physics

JOHN H. SCHWARZ, California Institute of Technology Mathematical Physics

FRIEDRICH-KARL THIELEMANN, Universität Basel Astrophysics

Senior Assistant

Editor:

DEBBIE BRODBAR, APS Editorial Office

**APS Editorial Office** 

1 Research Road Ridge, NY 11961-2701

Phone: (631) 591-4000 Fax: (631) 591-4141 Email: rmp@aps.org Web: http://publish.aps.org/ Submissions: rmptex@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 INO1 2 Huntington Quadrangle Melville, NY 11747-4502

Phone: (516) 576-2270, (800) 344-6902 Fax: (516) 349-9704 Email: subs@aps.org

Copyright © 2007 by The American Physical Society. All rights reserved. Reviews of Modern Physics 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 \$35.00 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.

 $Reviews \ of \ Modern \ Physics \ [ISSN: 0034-6861 \ (print), 1539-0756 \ (online); \ CODEN \ RMPHAT; printed \ in \ USA] \ is \ published \ quarterly \ by \ The \ American \ Physics \ (print), 1539-0756 \ (online); \ Physics \ (online); \ Physics \ (online); \ Physics \ (online);$ Physical Society, 1 Research Road, Ridge, NY 11961-2701.

POSTMASTER: Send address changes to Reviews of Modern Physics, APS Subscription Services, Suite 1NO1, 2 Huntington Quadrangle, Melville, NY 11747-4502. The 2007 print + online base price is \$530. Periodicals postage rates are paid at Huntington Station, NY, and additional mailing offices.