

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.

American Physical Society

Officers

President	SYLVESTER J. GATES
Speaker of the Council	BAHA BALANTEKIN
Chief Executive Officer	JONATHAN A. BAGGER
Editor in Chief	MICHAEL THOENNESSEN
Publisher	MATTHEW SALTER
Chief Information Officer	MARK D. DOYLE
Chief Financial Officer	JANE HOPKINS GOULD
Deputy Executive Officer and	
Chief Operating Officer	JAMES TAYLOR
Chief Government Affairs	
Officer	FRANCIS SLAKEY
Chief Human Resources	
Officer	BETH GUNZEL

One Physics Ellipse
College Park, MD 20740-3844

APS Editorial Office

Executive Editor	JESSICA THOMAS
Director, Journal	
Operations	CHRISTINE M. GIACCONE
Director, Information Systems	PAUL DLUG

1 Research Road
Ridge, NY 11961-2701
Phone: (631) 591-4000
Email: rmp@aps.org
Web: <https://journals.aps.org/>
Submissions: rmptex@aps.org or
<https://authors.aps.org/Submissions/>

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

P.O. Box 41
Annapolis Junction, MD 20701
Toll free: (888) 339-9655
Phone: (301) 617-7809 Email: subs@aps.org

Editor: RANDALL D. KAMIEN, University of Pennsylvania

Colloquia

Editor: DIETRICH BELITZ, University of Oregon

Associate APPLIED AND MATERIALS PHYSICS

Editors: MARK D. STILES, National Institute of Standards and Technology

ASTROPHYSICS

VÉRONIQUE VAN ELEWYCK, Université Paris Diderot

ATOMIC, MOLECULAR, AND OPTICAL PHYSICS (Experimental)

KLAUS MØLMER, University of Aarhus

BIOLOGICAL PHYSICS

MARGARET S. CHEUNG, Pacific Northwest National Laboratory;

University of Washington, Seattle

CLIMATE SCIENCE

WILLIAM D. COLLINS, University of California, Berkeley;

Lawrence Berkeley National Laboratory

CONDENSED MATTER PHYSICS (Experimental)

ARTHUR F. HEBARD, University of Florida

FRANCES HELLMAN, University of California, Berkeley

CONDENSED MATTER PHYSICS (Theoretical)

KARIN RABE, Rutgers University

FLUID, GEOMETRIC, AND SOLID MECHANICS

THOMAS POWERS, Brown University

MATHEMATICAL PHYSICS

DAM THANH SON, University of Chicago

NUCLEAR PHYSICS

THOMAS SCHÄFER, North Carolina State University

ROXANNE SPRINGER, Duke University

PARTICLE PHYSICS (Experimental)

HIROAKI AIHARA, University of Tokyo

PARTICLE PHYSICS (Theoretical)

PIERRE RAMOND, University of Florida

PHYSICS OF PLASMAS AND BEAMS

WIM LEEMANS, DESY

QUANTUM INFORMATION

DAVID DiVINCENZO, Forschungszentrum Jülich

SOFT CONDENSED MATTER

MARJOLEIN DIJKSTRA, Leonard S. Ornstein Laboratorium, Universiteit Utrecht

Journal Manager:

DEBBIE BRODBAR, APS Editorial Office

Reviews of Modern Physics publishes comprehensive reviews as well as shorter colloquia in all areas of physics. For information, see Article and Colloquium Guidelines at https://journals.aps.org/rmp/info/article_guide.html. Proposals should include an outline with the key citations.

Proposals and manuscripts should be submitted electronically in acceptable format (see <https://authors.aps.org/Submissions/>). Submission is a representation that the manuscript has not been published previously and is not currently under consideration for publication elsewhere. An executed APS **copyright-transfer form** must be provided (effective only on acceptance for publication). **Information for Contributors** can be found at <https://journals.aps.org/rmp/authors>. **Reprints** are offered for sale to authors. For additional information regarding the online version of this journal, please visit: <https://journals.aps.org/rmp>. Institutional subscribers requesting address changes, filing claims, or requesting additional information, please contact the APS Subscription Services at subs@aps.org. Member subscribers requiring changes, claims or additional information should contact the APS Membership Department at membership@aps.org.

Copyright © 2021 American Physical Society. All rights reserved.

*Reviews of Modern Physics*TM is a trademark of the American Physical Society, registered in the United States, Canada, European Union and Japan.

Rights and Permissions: <https://journals.aps.org/copyrightFAQ.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 via Aptara's SciPrisTM platform. To request permission to republish, refer to the Reuse and Permissions link that can be found on each APS article page and provide the requested information.

Other Use: Permission is granted to quote from the journal with the customary acknowledgment of the source. Permission must be sought using Aptara's SciPrisTM platform. To request permission to reproduce a figure, table, or excerpt of an article refer to the Reuse and Permissions link that can be found on each APS article page and provide the requested information. 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 Physical Society, 1 Research Road, Ridge, NY 11961-2701.