

PHYSICAL REVIEW A

ATOMIC, MOLECULAR, AND OPTICAL PHYSICS

Editor

BERND CRISEMAN
(University of Oregon)

Associate Editors

LEE A. COLLINS
(Los Alamos National Laboratory)

JULIO GEA-BANACLOCHE
(University of Arkansas)

MARGARET MALLOY
(APS Editorial Office)

LORENZO NARDUCCI
(Drexel University)

STEPHEN J. SMITH
(University of Colorado)

Assistant Editors

MARGARET FOSTER
VALERIE L. MILLER
JOANNA POPADIUK

Assistant to the Editors
JILL M. GARGANO

APS Editorial Office

1 Research Road, Box 9000
Ridge, NY 11961-9000
Phone: (631) 591-4010
Fax: (631) 591-4141
Email: pra@aps.org
Web: <http://publish.aps.org/>
Submissions: pratex@aps.org or
<http://publish.aps.org/ESUB/>

EDITORIAL BOARD

Term ending 31 December 2002

I. CIRAC	Quantum Information, Quantum Optics
J. D. FRANSON	Quantum Measurement
C. MACCHIAVELLO	Quantum Information
S. STENHOLM	Quantum Optics
W. C. STWALLEY	Atomic and Molecular Physics

Term ending 31 December 2003

L. J. CURTIS	Atomic Physics
J. DOWLING	Quantum Optics, Quantum Information
G. W. F. DRAKE	Atomic Theory
M. HILLERY	Quantum Information
A. MAQUET	Atomic Physics
M. PESHKIN	Theoretical Physics
J. SHERTZER	Atomic Theory
H. T. C. STOOFF	Matter Waves

Term ending 31 December 2004

S. M. BARNETT	Quantum Optics
W. BECKER	Atomic Physics
I. BIALYNICKI-BIRULA	Theoretical Physics
D. DI VINCENZO	Quantum Information
C. H. GREENE	Atomic Theory
W. R. JOHNSON	Atomic Theory
A. OREL	Molecular Theory
L. OROZCO	Quantum Optics
A. PERES	Quantum Theory
S. ROLSTON	Matter Waves
H. WISEMAN	Quantum Theory

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

<i>President</i>	WILLIAM F. BRINKMAN
<i>President-Elect</i>	MYRIAM P. SARACHIK
<i>Vice-President</i>	HELEN R. QUINN
<i>Editor-in-Chief</i>	MARTIN BLUME
<i>Treasurer</i>	
<i>and Publisher</i>	THOMAS J. MCILRATH
<i>Executive Officer</i>	JUDY R. FRANZ

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

Nonmember Subscriptions:

APS Subscription Services

Suite 1N01
2 Huntington Quadrangle
Melville, NY 11747-4502
Phone: (516) 576-2270, (800) 344-6902
Fax: (516) 349-9704
Email: subs@aps.org

Production and distribution by

American Institute of Physics

Suite 1N01
2 Huntington Quadrangle
Melville, NY 11747-4502
Phone: (516) 576-2200
Fax: (516) 576-2643
Email: pra@aip.org

Manuscripts may be submitted electronically if in appropriate format (see <http://publish.aps.org/ESUB/> or inquire at pratex@aps.org). Alternatively, send four copies 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. A signed APS **copyright-transfer** form (effective only on acceptance for publication) must be provided; the form is available on our Web server and appears at the end of the 3 December 2001 issue of *Physical Review Letters*. 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 published articles are requested to pay a **publication charge** of \$95 per article plus \$95 per journal page. Publication charges are not requested for properly prepared electronic submissions. Acceptable formats are REVTeX (preferred), LaTeX, Harvmac, Plain TeX; 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. **Nonmembers** should address subscription inquiries to APS Subscription Services. For address changes please send both old and new addresses, and, if possible, include an address stencil imprint from the mailing wrapper of a recent issue; allow six weeks advance notice.

Copyright 2002 by The American Physical Society

Permission to quote excerpts or to reprint any figures or tables should be obtained directly from an author. The American Physical Society for its part hereby grants permission to quote excerpts and reprint figures and/or tables from its journals with acknowledgment of the sources. **Individual** teachers, students, researchers, and libraries in nonprofit institutions acting for them are permitted to make hard copies of articles for use in teaching or research, provided such copies are not sold. **Copying of articles for sale** by document delivery services or suppliers, or beyond the free copying allowed above, is permitted against payment of a copying fee. The current copying fee is \$20.00, per article, per copy. Express permission of APS is not required, except for purposes stated below, provided that the fee is paid through the Copyright Clearance Center, Inc. (CCC), 222 Rosewood Drive, Danvers, MA 01923. Contact the CCC for information on how to report copying and remit payments. **Reproduction** in a reprint collection, or for advertising or promotional purposes, or republication in any form requires permission of one of the authors and a license from APS. Such a license must be sought from Barbara Hicks, Associate Publisher, The American Physical Society, One Physics Ellipse, College Park, MD 20740-3844. Permission from the author must be sought and obtained from him or her directly.

Physical Review A (ISSN: 1050-2947; CODEN PLRAAN; printed in USA) is published monthly (on the 1st of each month) by The American Physical Society through the American Institute of Physics.

POSTMASTER: Send address changes to Physical Review A, APS Subscription Services, Suite 1N01, 2 Huntington Quadrangle, Melville, NY 11747-4502. The 2002 print + online subscription price is \$1950 Academic Base; \$2145 Carnegie Doctoral/Equivalent; \$2345 Carnegie Research/Equivalent/Corporate & Government. Periodicals postage rates are paid at Huntington Station, NY, and additional mailing offices.