# PHYSICAL REVIEW B

## *RAPID COMMUNICATIONS*


*Editor*

**P. D. ADAMS**

*Senior Assistant Editor*

**PATRICK BOUCHER**

*Associate Editors*

**ALLEN GOLAND** **KELVIN G. LYNN**
**MYRON STRONGIN** **MICHAEL WEINERT**

*Senior Assistants to the Editor*

**ANTHONY M. BEGLEY**
**GEORGE MICHEL**
**J. C. WHITE**

*Assistant Editor*

**G. M. S. LISTER**

*Assistant to the Editor*

**R. MARK WILSON**

*EDITORIAL BOARD*

*Term ending 31 December 1996*

**S. JAMES ALLEN** **ALLEN M. GOLDMAN**
**JOHN E. INGLESFIELD** **JOHN J. QUINN**
**FRANS SPAEPEN**

*Term ending 31 December 1997*

**TSUNEYA ANDO**
**YVAN BRUYNSERAEDE**
**GEOFFREY GRINSTEIN**
**T. V. RAMAKRISHNAN**

*Term ending 31 December 1998*

**NEIL ASHCROFT**
**D. E. ASPNES**
**C. W. J. BEENAKKER**
**CHRISTIAN MAILHIOT**



Published through the
American Institute of Physics
by
**The American Physical Society**

*President*
J. ROBERT SCHRIEFFER

*President-Elect*
D. ALLAN BROMLEY

*Vice-President*
ANDREW M. SESSLER

*Executive Officer*
JUDY R. FRANZ

*Treasurer*
HARRY LUSTIG

*Editor-in-Chief*
BENJAMIN BEDERSON

***Editorial Office:***

**1 Research Road**
**Box 9000**
**Ridge, NY 11961**
**Telephone: (516) 591-4000**
**FAX:* (516) 591-4141**
**INTERNET:* prb@aps.org**
***Not for transmission of manuscripts**

**For electronic submission of manuscripts use prbtex@aps.org**

***Production and distribution by***

**American Institute of Physics**
**500 Sunnyside Blvd.**
**Woodbury, NY 11797**
**Telephone: (516) 576-2200**
**FAX: (516) 349-1802**

CODEN: PRBCFU
PRINTED IN USA


**Manuscripts** for publication should be submitted to the Editorial Office in triplicate. Information for contributors may be found in the January and July issues of *Physical Review B.* 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 (to take effect upon publication) must be provided, and should be included with the submission. The copyright-transfer form appears at the end of the 25 March 1996 issue of *Physical Review Letters* and is available from the Editorial Office (or via ftp to aps.org).

**To support** wide dissemination of research results through publication, the authors' institutions are requested to pay a publication charge of $65 per page plus a $65 abstract charge. For properly prepared electronic submissions (REVTeX or LaTeX format), the request is $50 per page plus a $50 abstract charge. Reprints are offered for sale to authors.

**Subscription prices** (table below) for American Physical Society members are for the fiscal year 1 July 1996–30 June 1997. **Member subscriptions are for personal use only.** Back-number price: Single copies, $90.

| | No. Issues | U.S.A. & Poss. | Can., Mex., Cntrl & S. Amer., & Carib. | Europe, Asia, Africa, & Oceania Surface Mail | Europe, Asia, Africa, & Oceania Optional Air Freight |
|---|---|---|---|---|---|
| **Physical Review B Rapid Communications** | 24 | $ 75 | $100 | $100 | $120 |
| **Physical Review B** (incl. all Rapids) | 48 | $350 | $540 | $540 | $910 |
| **Physical Review B** (1st) (incl. B1 Rapids) | 24 | $170 | $265 | $265 | $450 |
| **Physical Review B** (15th) (incl. B15 Rapids) | 24 | $180 | $275 | $275 | $460 |

*Physical Review B Rapid Communications online* is available free with any of the above subscriptions.

**Inquiries regarding subscriptions,** renewals, address changes, missing or damaged copies, microfilm, and single-copy orders should be addressed as follows:

APS Membership Department, One Physics Ellipse, College Park, MD 20740-3844 [phone: (301) 209-3280; FAX: (301) 209-0867; e-mail: membership@aps.org].

Allow at least six-weeks advance notice. 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. A change-of-address form is included in every issue of *Physics Today*.

**The Annual Index** of *Physical Review* and *Physical Review Letters* may be ordered by members for $30. Back issues are available for $100. There are mail surcharges for non-U.S. destinations.


***Physical Review B Rapid Communications*** (ISSN: 1082-586X) is published twice a month (on the 1st and the 15th of each month) by The American Physical Society through the American Institute of Physics. Periodicals postage rates are paid at Woodbury, NY 11797, and additional mailing offices. POSTMASTER: Send address changes to Physical Review B Rapid Communications, APS Membership Department, One Physics Ellipse, College Park, MD 20740-3844.



**Copyright 1996 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 up to 25 figures and/or tables from its journals with acknowledgment of the sources. Requests for permission to reprint in one publication more than 25 figures and/or tables from the totality of APS journals must be made in writing to the Associate Publisher (see address below). A $10.00 fee per figure and/or table in excess of 25 will be charged.

**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 $10.00, 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 María Lebrón, 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.