PHYSICAL REVIEW A
EDITORIAL POLICIES AND PRACTICES
(Revised January 2002)

Physical Review A is published by the American Physical Society (APS), the Council of which has the final responsibility for the Journal. The Publications Oversight Committee of the APS and the Editor-in-Chief possess delegated responsibility for overall policy matters concerning all APS journals. The Editor of *Physical Review A* is responsible for the scientific content and editorial matters relating to the Journal. In this the Editor is assisted by the Journal's associate and assistant editors.

Editorial policy is guided by the following statement adopted in April, 1995 by the Council of the APS:

> It is the policy of the American Physical Society that the *Physical Review* accept for publication those manuscripts that significantly advance physics and have been found to be scientifically sound, important to the field, and in satisfactory form. The Society will implement this policy as fairly and efficiently as possible and without regard to national boundaries.

Physical Review A has an **Editorial Board** whose members are appointed for three-year terms by the Editor-in-Chief upon recommendation of the Editor, after consultation with APS divisions where appropriate. Board members play an important role in the editorial management of the Journal. They lend advice on editorial policy and on specific papers for which special assistance is needed, participate in the formal appeals process (see section on Author Appeals), and give input on the selection of referees and the identification of new referees.

SUBJECT AREAS

The subtitle of *Physical Review A* is Atomic, Molecular, and Optical Physics. Papers are categorized into the following subsections:

(1) Fundamental concepts
(2) Quantum information
(3) Atomic and molecular structure and dynamics
(4) Atomic and molecular collisions and interactions
(5) Photon, electron, atom, and molecule interactions with solids and surfaces
(6) Clusters (including fullerenes)
(7) Atomic and molecular processes in external fields
(8) Matter waves
(9) Quantum optics, physics of lasers, nonlinear optics

If a manuscript submitted to *Physical Review A* is on a topic not within its purview, but may be suitable for another *Physical Review* journal, the Editors will transfer the paper to the appropriate journal and inform the author(s) of that transfer.

CONTENT OF ARTICLES

Papers must contain **new results in physics.** Confirmation of previously published results of unusual importance can be considered as new, as can significant null results. Papers advancing new theoretical views on fundamental principles or theories must contain convincing arguments that the new predictions and interpretations are distinguishable from existing knowledge, at least in principle, and do not contradict established experimental results. Mathematical and computational papers that do not have application to physics are generally not suitable for *Physical Review A.* In general, authors should keep review material to a minimum. Even so, some review and reprise of past work is appropriate if the paper is made more understandable and self-contained thereby.

Papers should be **clearly written** in good scientific English, in a style consistent with that of the journal. Special attention should be paid to **readability**, so as to render papers understandable to readers outside a narrow specialty. (See Information for Contributors, following.)

New terminology should be introduced only when clearly needed. It should be appropriate and, if possible, convey to the reader an accurate impression of its meaning. New terminology should not be frivolous, nor should it be introduced in titles. *Excessive use of acronyms is discouraged.*

Publication of ongoing work in a **series of papers** should be avoided. Instead, a single comprehensive article (perhaps preceded by a Letter or Rapid Communication) should be published. This policy against serial publication applies to Rapid Communications and Brief Reports as well as to regular articles.

Although there is no limit to the length of regular articles, the **appropriate length** depends on the information presented in the paper. Authors may refer in their paper to their own internal reports or theses that contain more detail than the published article or they may deposit some of the material, especially long tables, in the **Electronic Physics Auxiliary Publication Service (EPAPS)** of the American Institute of Physics. Files deposited in EPAPS are made freely available via ftp and the World Wide Web. As an electronic service, EPAPS can accommodate color-figure, multimedia, and program files. Information about EPAPS is available via the Authors subpage of pra.aps.org, in the Manuscript Preparation section.

Authors should place their work in **context with the current state of research,** but they are not held responsible for publications that had not yet appeared when their paper was submitted. Authors are not held responsible for references to preprints, internal reports, results that have been reported

only orally at meetings (even though an abstract may have been printed), or for papers that have appeared in publications not abstracted in standard abstracting journals. If such work is called to the attention of the authors by a referee, however, they are encouraged (but not required) to refer to it. If revision of a manuscript takes a substantial time (several months), the references should be updated to include recently published relevant work. Authors are expected to include references to relevant books and to published conference proceedings that contain more than abstracts.

Papers that describe **proposed experiments** fall into a special category. For such papers to be acceptable, the experiments must be demonstrated to be novel and feasible. It is the authors' responsibility to show that their proposal is likely to stimulate research that might not otherwise be undertaken.

Material **previously published** in a Letters journal, as a Rapid Communication, or in conference proceedings can be the basis of an article in *Physical Review A*, provided the submitted manuscript presents considerably more information, enabling the reader to obtain a substantially improved understanding of the subject. Figures, tables, and text material that have been published previously should be referenced, not repeated. Exceptions can be warranted by unusual circumstances.

SHORT PAPERS

Physical Review A publishes Articles, Rapid Communications, Brief Reports, and Comments. **The scientific content of all sections of the Journal is judged by the same criteria.** The sections are distinguished by the different purposes for which the papers are intended.

Each paper must have an abstract. Short papers are limited to four printed pages; exceptions will be considered for Comments.

Rapid Communications in *Physical Review* are intended for the accelerated publication of important new results, as are *Physical Review Letters*. Authors may follow a Rapid Communication (or a Letter) with a more complete account as a regular article in *Physical Review*. The principal difference between *Physical Review Letters* and Rapid Communications is that Letters are aimed at a general audience of physicists and allied scientists, while Rapid Communications are primarily for a more specialized audience, i.e., the usual readers of a particular *Physical Review* journal (A, B, C, D, or E). Rapid Communications are given priority in editorial processing and production to minimize the time between receipt and publication. Therefore authors should justify the need for priority handling in their letter of submittal. A series of Rapid Communications by one group of authors on a particular subject is discouraged.

A **Brief Report** is an account of completed research that meets the usual *Physical Review* standards of scientific quality but is not appropriate for a regular article (or for the priority handling given to Rapid Communications). Announcements of planned research, progress reports, and preliminary results are generally not suitable for publication as Brief Reports. The normal publication schedule is followed. **Addenda** are included in the Brief Reports section.

Comments are publications that criticize or correct papers of other authors previously published in *Physical Review A*. Each Comment should contain an **abstract** and should state clearly the paper to which it refers. To be considered for publication, a Comment must be written in a collegial tone (free from polemics) and must be pertinent and without egregious errors. A Reply to a Comment must also conform to these requirements. Editorial procedures for processing Comments are described in the following section.

Errata are notices of errors or omissions in papers previously published in *Physical Review A*. Errata should be as brief as possible. An Erratum should contain a short statement of the correction(s) and, where appropriate, a description of any effects on the conclusions of the paper.

EDITORIAL PROCEDURES

Usually *one* **referee** is selected initially by the Editor for each manuscript; there are exceptions, as with almost all procedural matters discussed below. In most cases, directly submitted Rapid Communications are initially sent to two referees. Referee reports are advisory to the Editor(s), but are generally transmitted by the Editor(s) to the authors, and so should be written in a collegial manner. The Editor(s) may withhold or edit these reports for cause. If in the judgment of the Editor(s) a paper is clearly unsuitable for *Physical Review A*, it will be rejected without review; authors of such papers have the same right to appeal as do other authors.

Any resubmittal should be accompanied by a summary of the changes made, and a brief response to all recommendations and criticisms. This material will normally be forwarded to reviewers, and so should be written in a collegial manner. Remarks that authors wish to address solely to the Editor(s) should be clearly identified and separated from the summary and response.

A manuscript may be sent to additional referees if warranted, either by request of the authors or by editorial decision. In most cases the new referee will be provided with previous correspondence on the manuscript, but not with the identity of the previous referee(s). Editorial Board members, however, may receive this information.

Since the referee is usually best qualified to judge a paper, the author should direct his or her responses to the items raised in the referee report. In general, very long rebuttal letters explaining contentious points in a manuscript should be avoided in favor of clarifying alterations in the manuscript itself.

Papers are accepted for publication based on favorable recommendations by the referee(s). On the other hand, the Edi-

tors can and will seek additional opinions when in their judgment such action seems called for. It is the policy of this Journal that every effort be made to arrive at a decision on disposition within a reasonable time.

After acceptance of a manuscript, if further information that seems to warrant investigation is received, the Editors will regard it as an obligation to reconsider their decision.

Authors should state whether the paper they submit has been **previously considered for publication** in another APS journal (*Physical Review Letters*, other *Physical Review* journals, or *Reviews of Modern Physics*).

When a manuscript has several authors, one of them, the corresponding author, should be designated to receive and respond to correspondence from the Editors. This designation can be changed upon notification of the Editors. It is the responsibility of the corresponding author to represent all those involved with the work reported and to ensure that the content of the manuscript and the list of authors meet with their approval, both initially and through any subsequent changes.

Authors may not present data and other results obtained by others as if they were their own. Nor may authors incorporate without attribution text from the works of another author, even when summarizing past results or background material. If a direct quotation is appropriate, the quotation should be clearly indicated as such and the original source should be properly cited. Papers that have been found to be in violation of this rule will be rejected. In such cases, resubmission of the manuscript, even with the plagiarized text removed, is not ordinarily allowed. However, the Editors may allow exceptions to this policy if warranted by special circumstances.

Authors may request that particular individuals not be **chosen as referees.** Such requests are usually honored, although it is customary to give authors whose work is criticized in a manuscript an opportunity to respond to the criticism. Authors are welcome to submit a list of experts whom they consider especially suited to referee their paper. Such a list is particularly useful when a manuscript treats a highly specialized subject on which papers are infrequently published. The Editors, however, are not constrained to select a referee from that list.

Authors may request that their identities not be revealed to the referees (**''double-blind'' reviewing**). If such a request is made, it is the authors' responsibility to furnish a copy of the manuscript without the authors' names, addresses, and the acknowledgment section.

In some circumstances information about a manuscript considered by *Physical Review A* and subsequently submitted to another journal may be provided to the editor of that journal. Such information might include the comments and identities of referees.

Comments, papers which criticize or correct the work of other authors previously published in *Physical Review A*, are processed according to the following procedure:

(1) The paper is first sent to the author(s) whose work is being criticized. These authors act as reviewers (usually not anonymously) and should provide a *report* (not a Reply) suitable for transmittal to the author(s) of the Comment.

(2) After suitable exchanges between the involved parties, the Comment, along with relevant correspondence, is sent to an ''uninvolved'' referee for anonymous review. If on the basis of this referee's (and possibly other reviewers') recommendation the Editor decides to accept the Comment for publication, then the authors whose work is being commented on are given the opportunity to write a Reply for possible simultaneous publication. This Reply will also be reviewed, usually by the same uninvolved referee.

(3) After the Comment and Reply have been accepted for publication, the author of the Comment is sent a copy of the Reply for his or her information, but should not alter the Comment unless requested to do so by the Editor. The Comment and Reply usually are published in the same issue of the journal, with the Reply immediately following the Comment. If there is undue delay in the preparation and review of the Reply, the Comment may be published before the Reply. The normal publication schedule is followed.

AUTHOR APPEALS

Authors may appeal a rejection of their paper by the Editor(s). In the case of a formal appeal, the paper and all relevant information, including the identities of the referees, will be sent to a member of the Editorial Board. The Board member may review the case on the existing record or may seek additional expert opinion. The Board member will present a signed advisory opinion to the Editor(s).

If a Board member has provided a referee report on a paper prior to appeal, another Board member must review the paper on appeal. Authors may suggest those Board members they feel are appropriate (or not appropriate) to conduct the review, but the Editor(s) is (are) not bound by such suggestions. If there is no suitable Board member available, the Editor(s) may appoint an appropriate scientist to consider a paper under appeal as an *ad hoc* Board member.

The author of a paper that has been rejected subsequent to an Editorial Board review may request that the case be reviewed by the Editor-in-Chief of the APS. This request should be addressed to the Editor, who will forward the entire file to the Editor-in-Chief. Such an appeal must be based on the fairness of the procedures followed, and must not be a request for another scientific review. The question to be answered in this review is: Did the paper receive a fair hearing? The decision of the Editor-in-Chief concludes the consideration of the manuscript by the American Physical Society.

RECEIPT DATES

Each paper, when published, carries a receipt date indicating when the manuscript was first received by the Editors of *Physical Review A.*

If authors make substantive changes in a manuscript or if they hold it for an unusually long time after it has been returned to them with a referee's report, the paper will be given a ''revised manuscript receipt date.'' In such cases, the authors may be required to revise references to include material published since the original submission of the manuscript. In cases of especially lengthy delays the original paper is considered withdrawn, and the resubmitted version is considered to be a new paper and is given a new receipt date.

Papers transferred from *Physical Review Letters* or other *Physical Review* journals that are accepted without further review (and are not delayed unduly by the authors) will retain the original receipt date. In other cases a new receipt date, which is the date of transfer, will generally be given. The authors may, however, request that the original receipt date be retained.

AUTHOR INQUIRIES

The Author Status Inquiry System (ASIS) provides information to authors regarding the status of their manuscripts automatically via the World Wide Web at the URL http://publish.aps.org/STATUS/. Alternatively, authors may send an electronic mail message to status@aps.org using as the subject line the manuscript code number followed by the last name of the first author (for example, AB1234 Jones). The body of the message should be empty (no human will read it).

Telephone inquiries regarding status are discouraged, since the interruption of normal office procedures can cause delays. In those cases when clarification of the information from ASIS is needed, send an electronic mail message to pra@aps.org (with subject line, for example, Status AB1234 Jones).

For papers that have been accepted for publication, information about their status in the production process can be obtained from AIP's Accepted Manuscript Status Inquiry System (AMSIS) at the URL http://www.aip.org/msinq/status.html. You will need the accession code of your paper (called ''editor code'' on AMSIS) and the last name of one of the first three authors.

The Editors welcome suggestions from authors and referees regarding improvements in editorial and refereeing procedures.

The Editors of *Physical Review A*