

How to publish your work in the Physical Review

or

Editors are from Mars, Referees are from Venus, and
Authors are from Earth

Thomas Pattard, Physical Review A
APS Editorial Office, Ridge, NY

- Overview of APS and APS Publishing
- **The Peer Review Process**
- APS' most recent Projects

American Physical Society (APS)

A non-profit organization, governed democratically by its members (founded 1899)

Main activities:

1. Research publications
2. Meeting organization
3. Member representation
4. Public outreach

} Advance and diffuse the knowledge of physics

Some numbers: (FY 2008 figures)

~ 200 employees [College Park (HQ), Ridge (Ed. Office), Washington]

more than 47000 members

Total revenue: \$44.6 M

Total expenses: \$44.8 M

Research publications revenue: \$35.7 M

expenses: \$29.5 M

American Physical Society (APS)

Physical Review A :	atomic, molecular & optical physics
Physical Review B :	condensed matter
Physical Review C :	nuclear physics
Physical Review D :	particles & fields
Physical Review E :	plasmas, fluids, statistical, many-body & biophysics
Physical Review STAB* :	special topics: accelerators & beams
Physical Review STPER* :	special topics: physics education research

Physical Review Letters :	all topics in physics
Reviews of Modern Physics:	all topics in physics

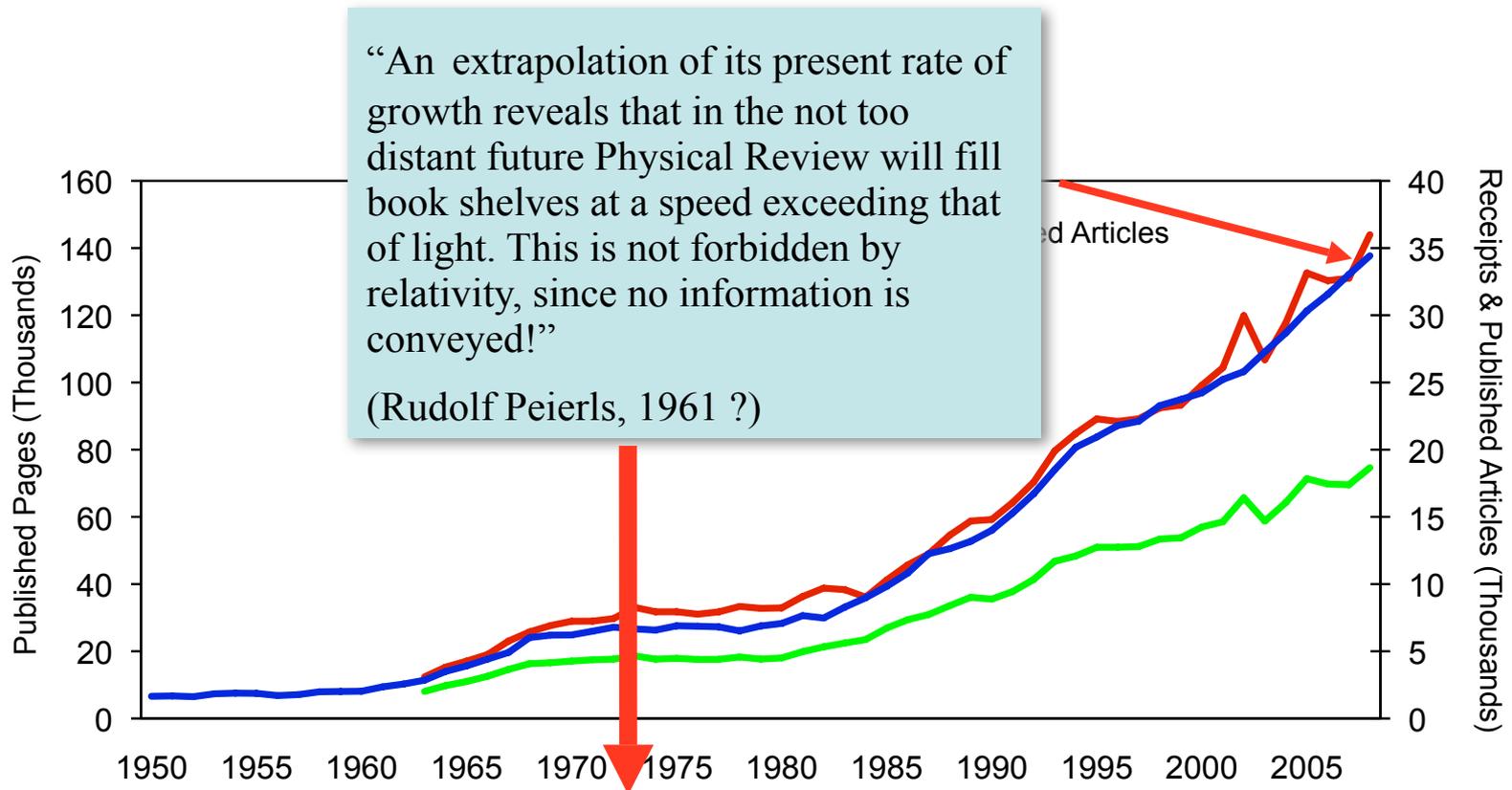
Bulletin of the APS:	abstracts of papers for meetings
APS news:	news of the APS
Focus*:	publications of special interest

Physics*:	highlighting content from Phys. Rev.
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*online only

Some statistics...

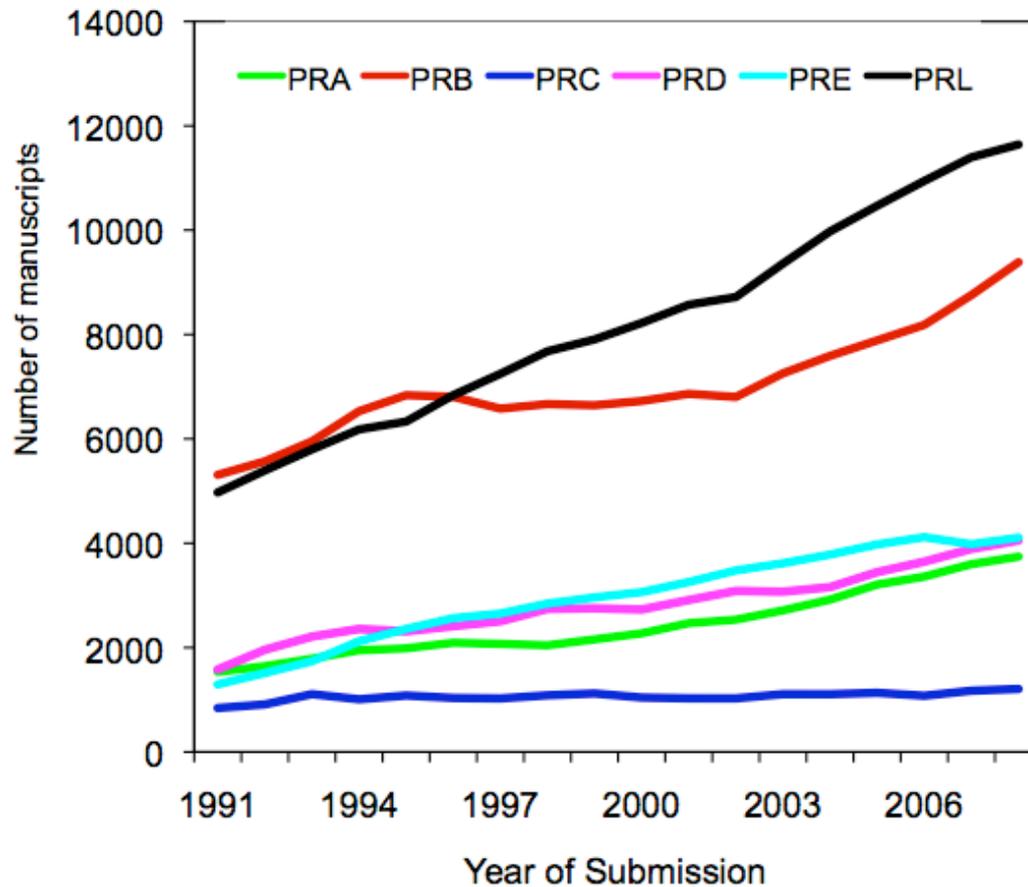
Submissions Physical Review and Physical Review Letters



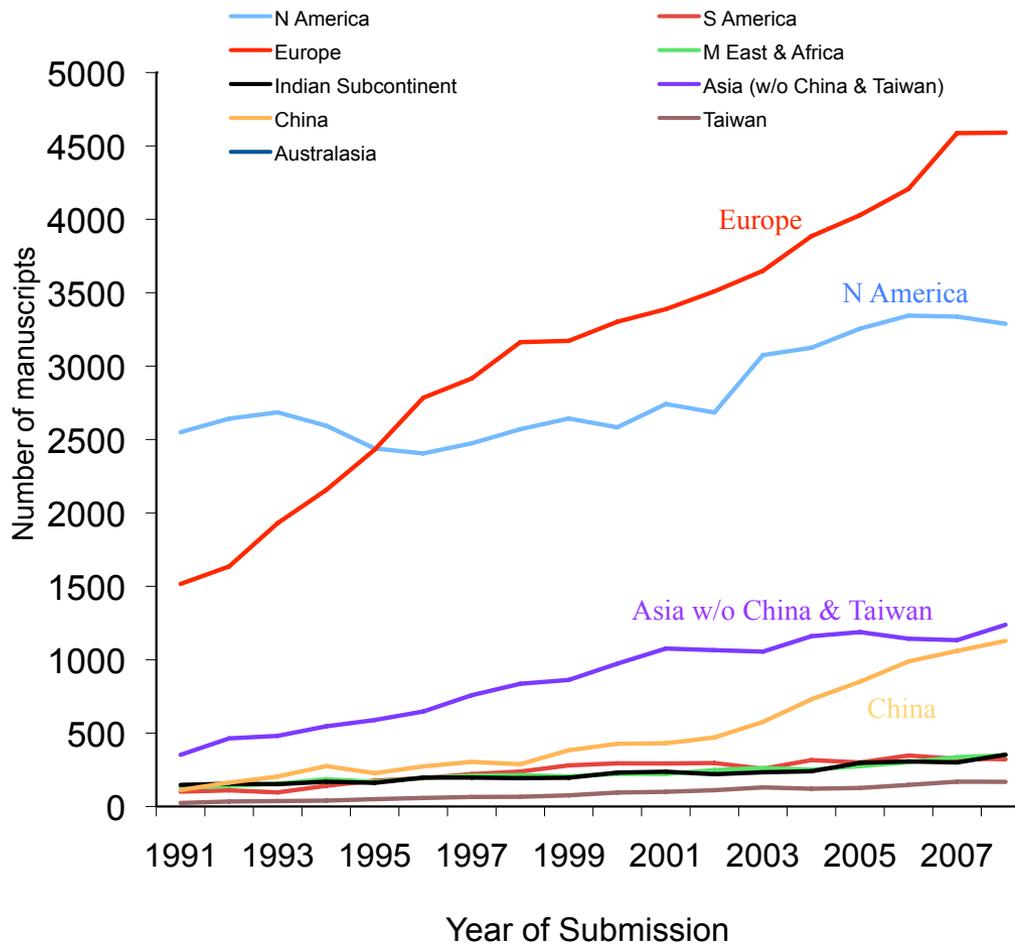
Need for (rigorous) selection !

More Statistics...

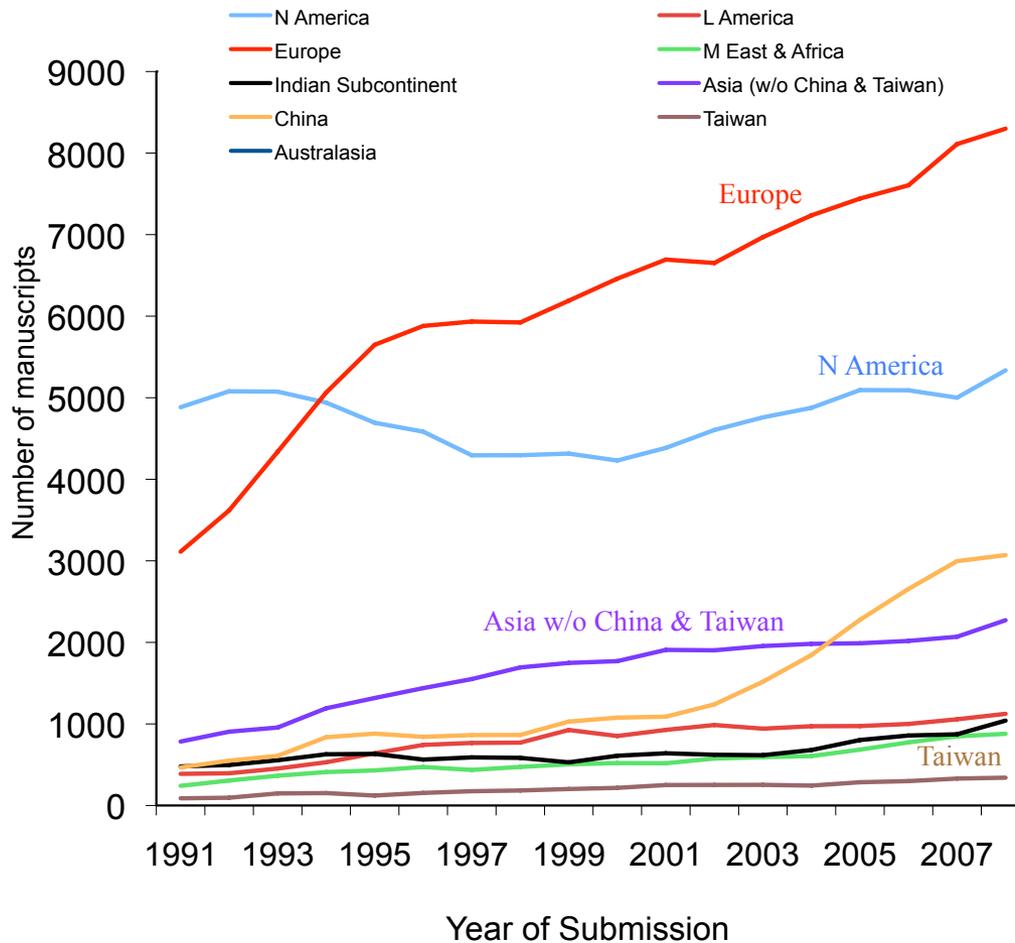
PR & PRL Receipts by Journal January 1 - December 31



PRL Receipts by Geographic Region January 1 - December 31

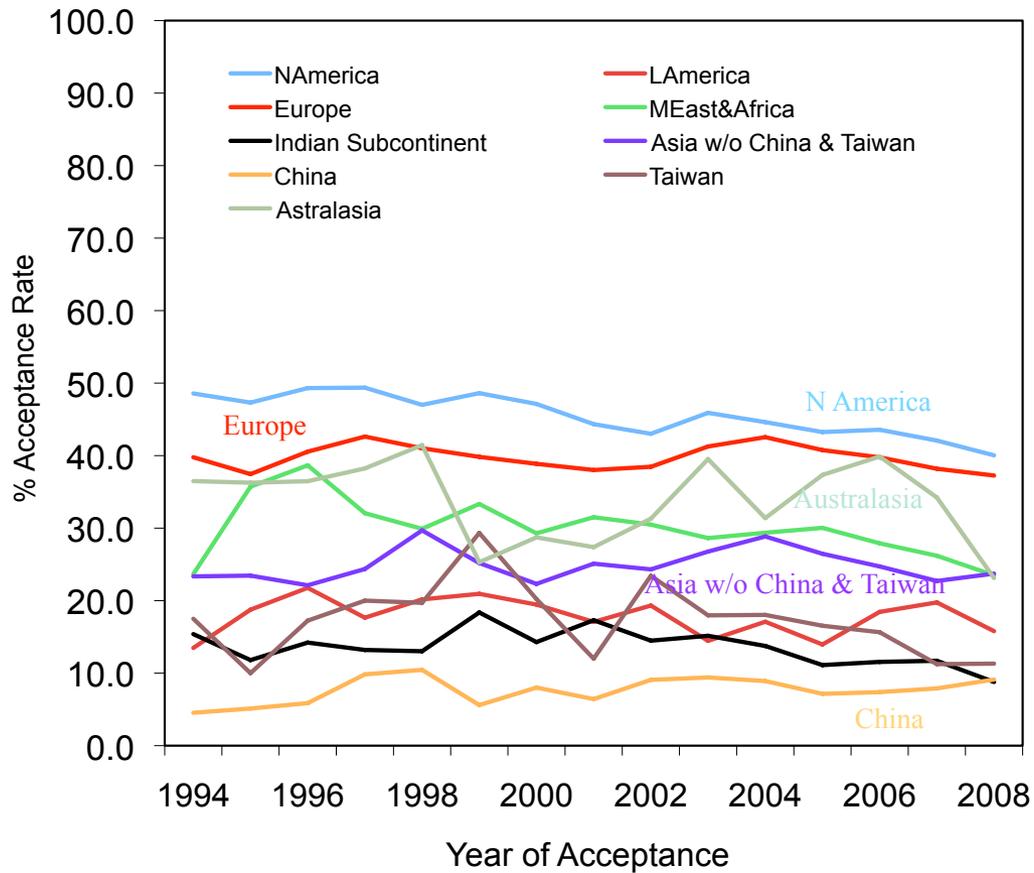


Physical Review A-E Receipts by Geographic Region January 1 - December 31

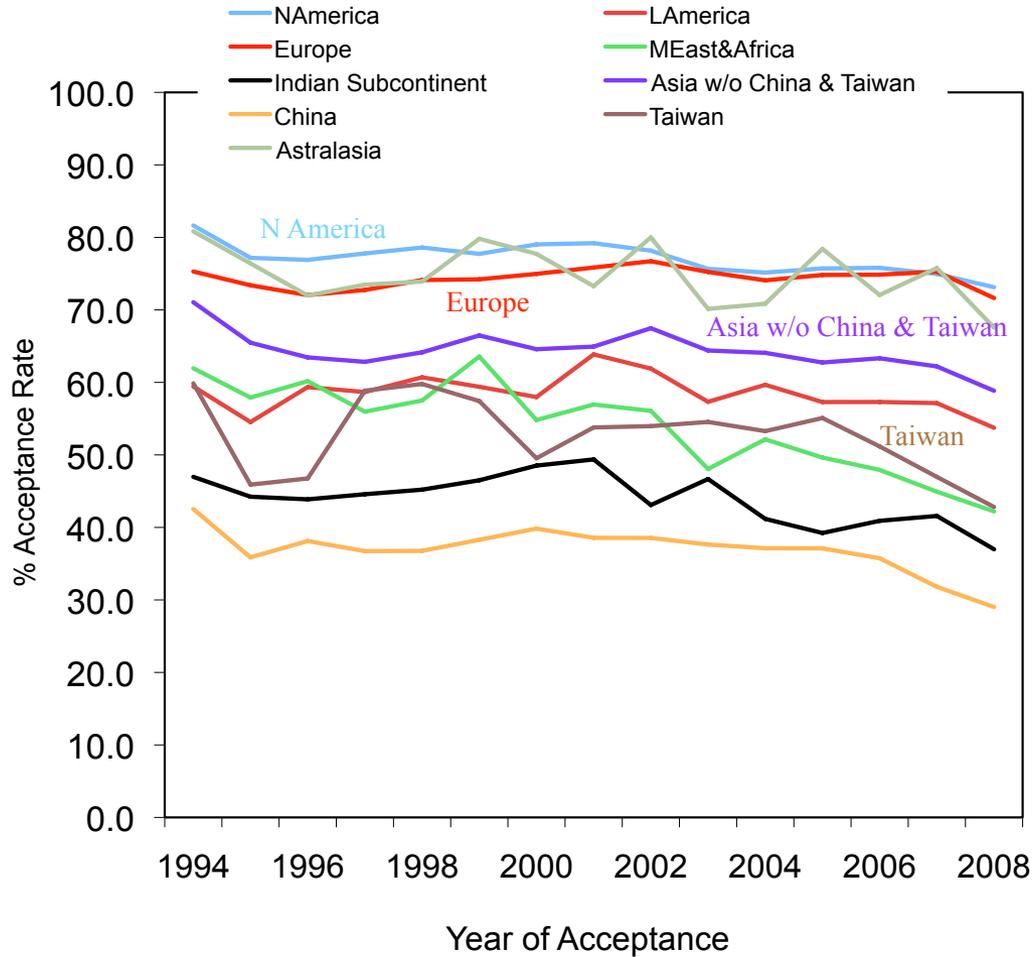


Rcpts fr. Taiwan (2008)	
PRA	37
PRB	177
PRC	2
PRD	70
PRE	56
PRL	168

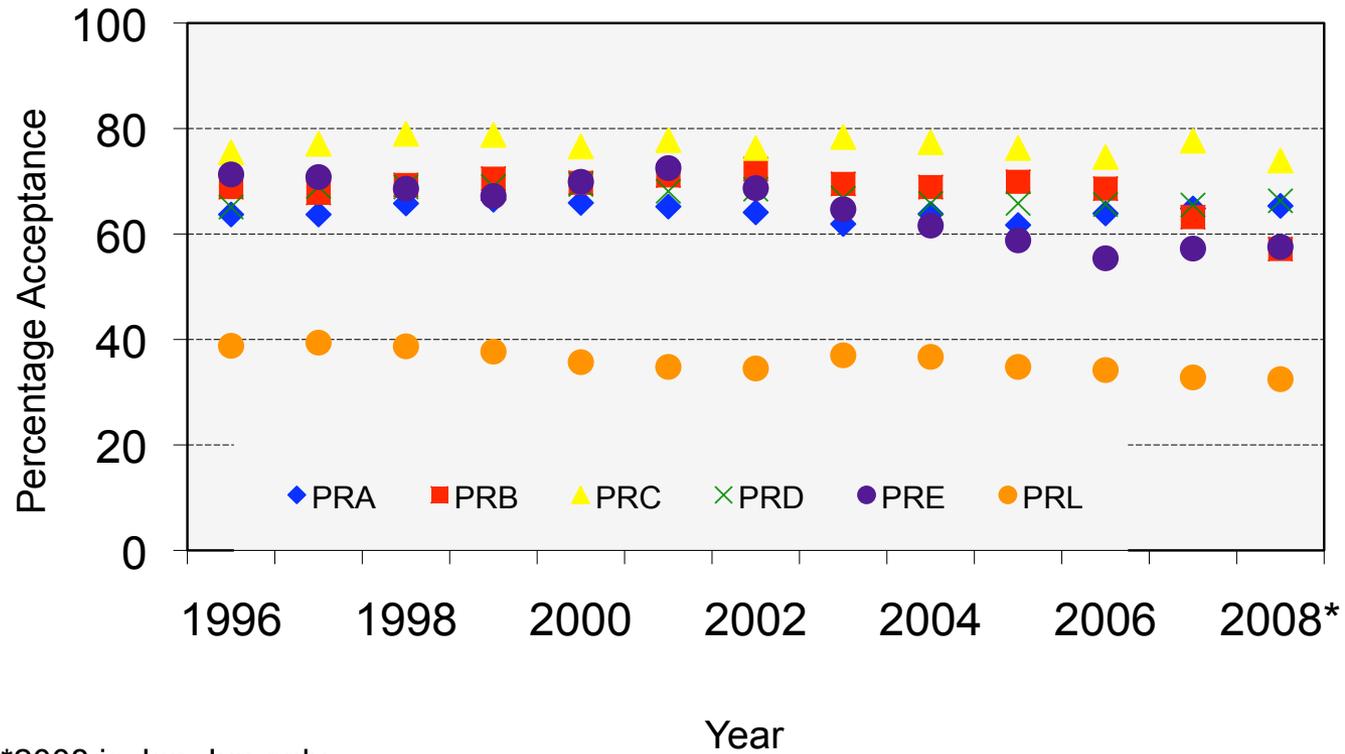
PRL Acceptance Rates by Geographic Region January 1 - December 31



Physical Review A-E Acceptance Rates by Geographic Region January 1 - December 31

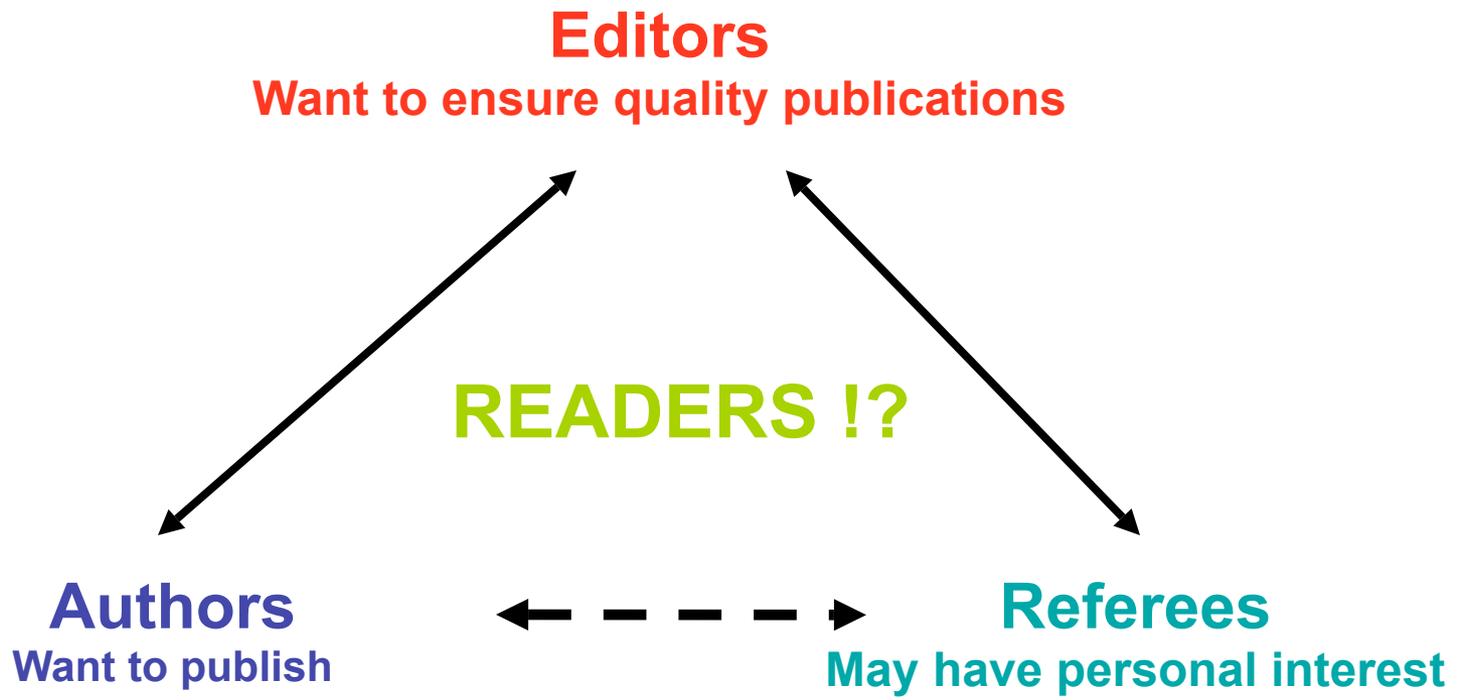


Acceptance Rates

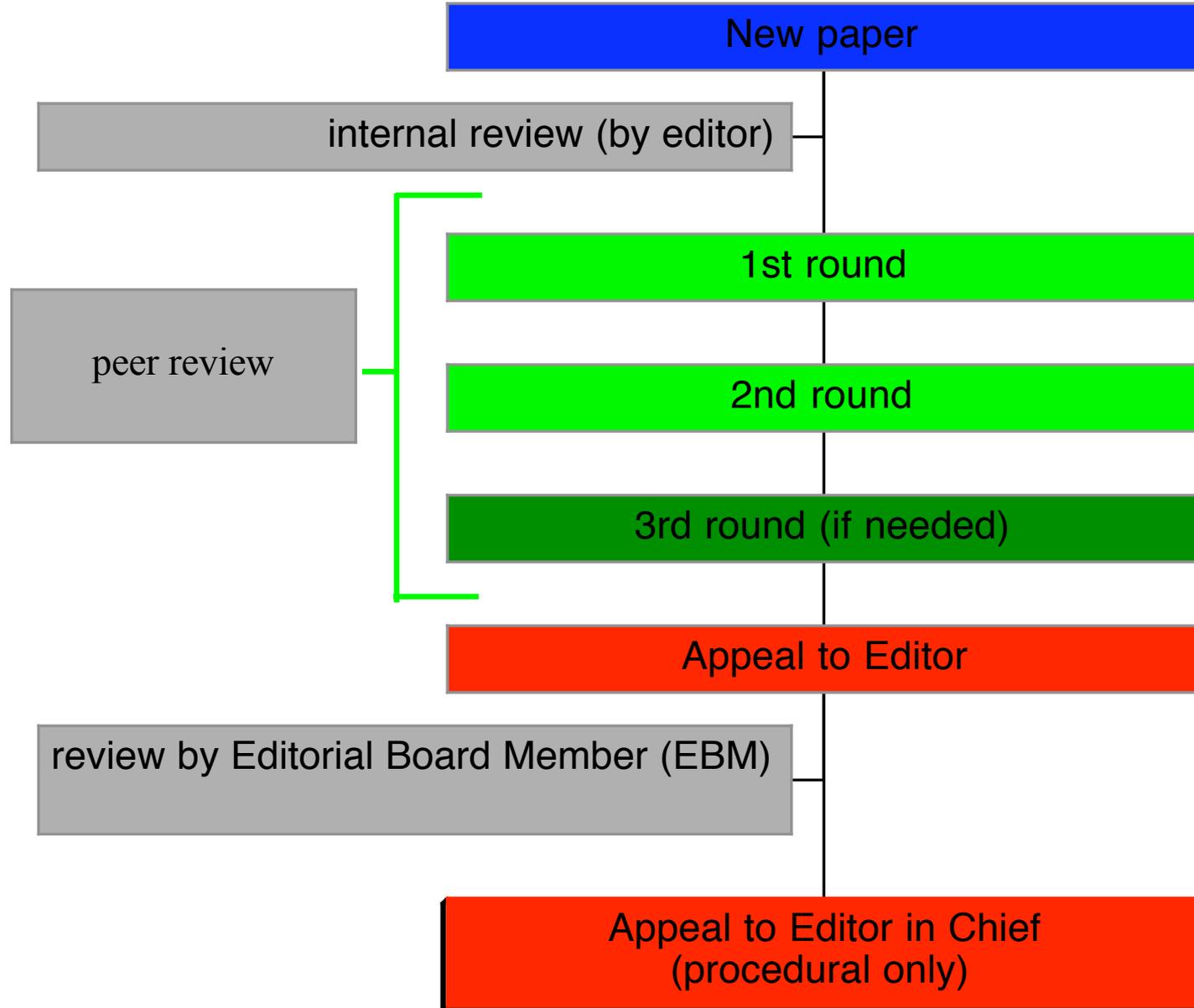


*2008 is Jan-Jun only

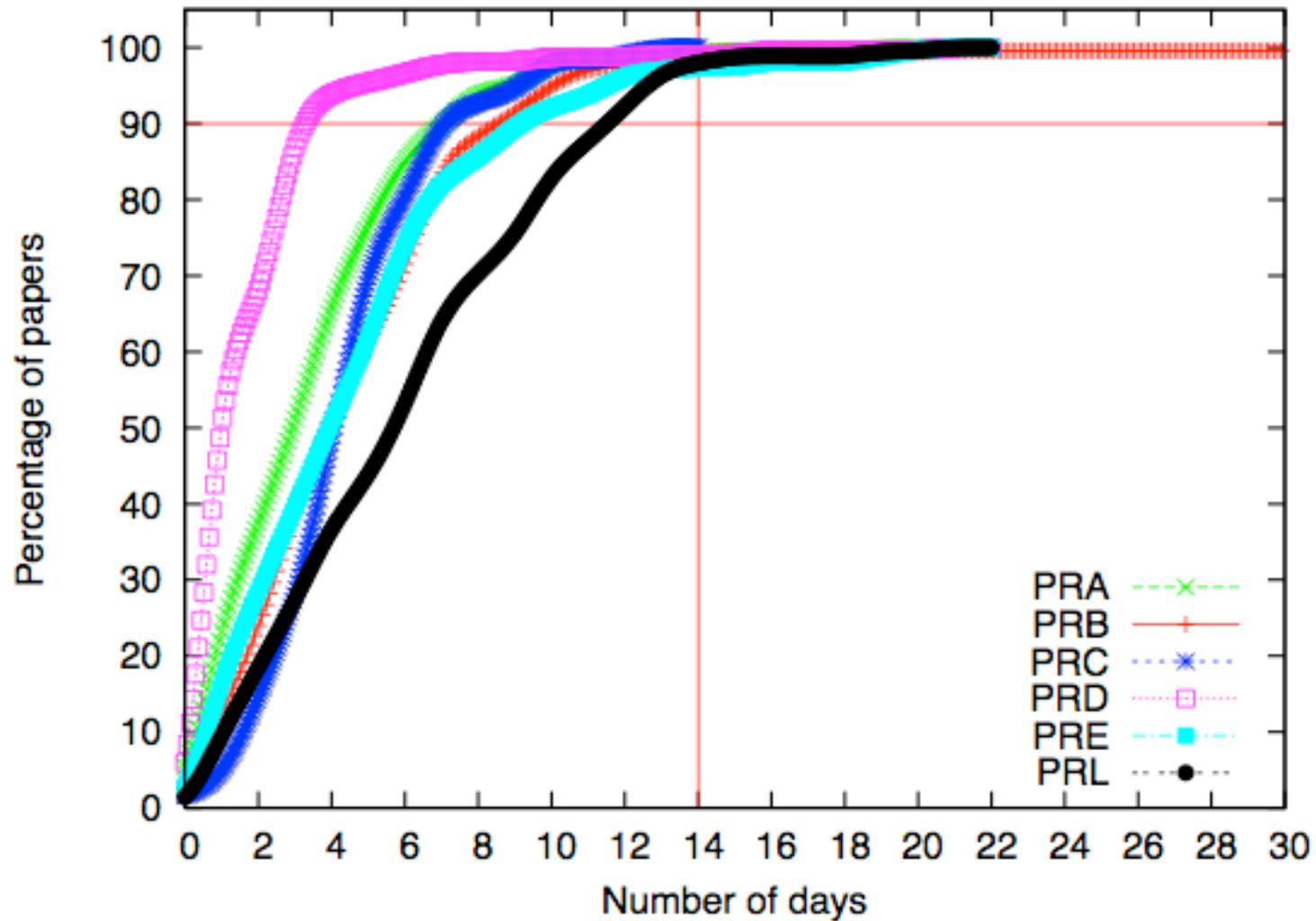
The Peer Review Process



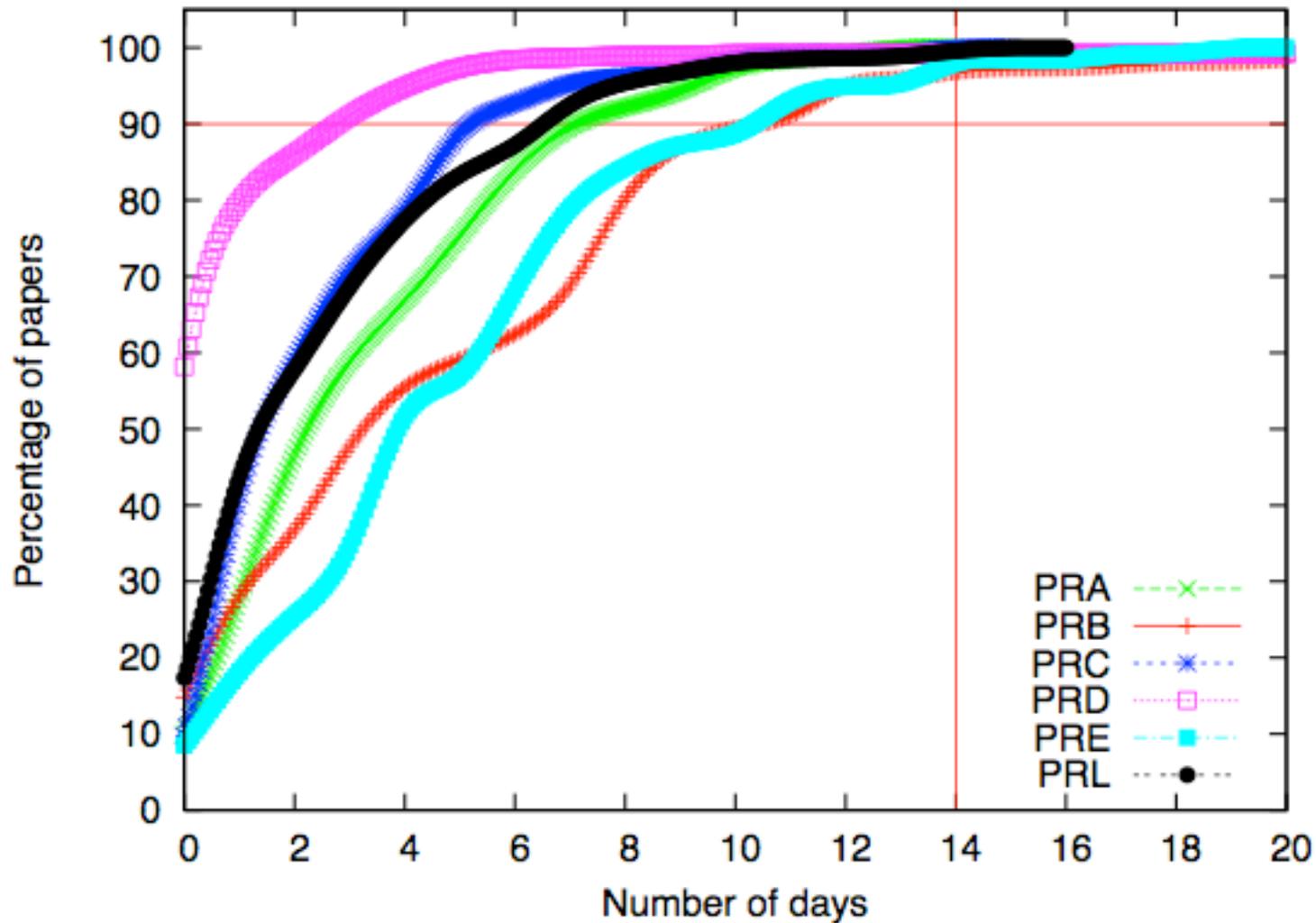
Review process at Physical Review



Time to send new paper to first referee (Aug 2009)



Time to send decision to author after report(s) arrived (Aug 2009)



Average time from submission to acceptance

Receipt to Acceptance
January 1 - December 31

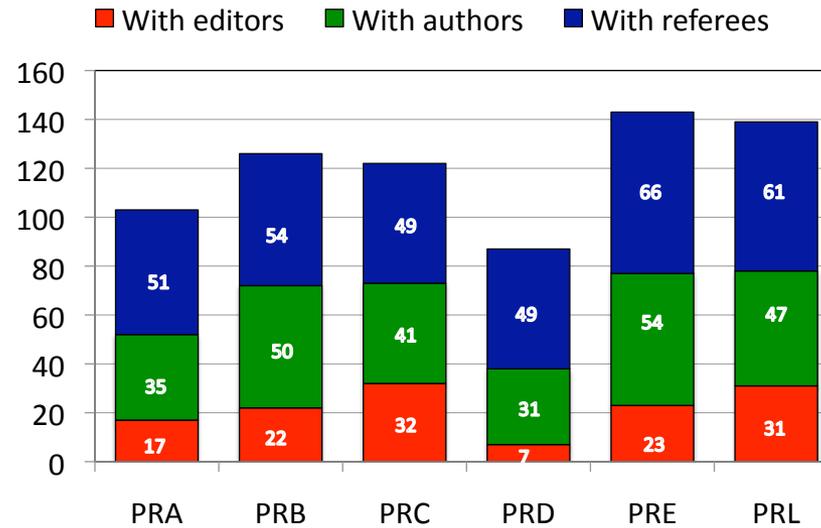
*Articles include Brief Reports and transfers.

	Articles 2008						
	PRA	PRB	PRC	PRD	PRE	PRL	PRZ
Number of mss.	2269	5377	816	2739	2158	3902	114
Min. # of days	7	9	11	2	13	7	20
Max. # of days	1491	1913	709	919	1605	992	835
The median	92	111	100	67	124	118	124
The mean	123.58	146.82	129.36	92.33	156.95	138.52	160.83

	Rapids 2008				
	PRA	PRB	PRC	PRD	PRE
Number of mss.	55	142	55	70	54
Min. # of days	11	6	14	2	29
Max. # of days	292	271	354	236	304
The median	69	56	77	48	82
The mean	84.56	66.01	87.87	62.06	104.28

Average time from submission to acceptance

Time consumption during the review process
(2008)



Before submission ...

- Decide what journal and section the work is suitable for (different journals, and different sections within a journal, have different criteria!)
 - breadth (specialized audience vs general audience)
 - importance
 - format (length limit?)
 - subject matter (look at your references!)
- Familiarize yourself with your “target journal”
 - read the journal!
 - read the journal’s instructions (both those for authors and those for referees...)
 - check out whether there are some helpful editorials
- Carefully prepare your manuscript
 - language
 - clarity of figures and presentation
- Write a cover letter (e.g. if you request priority treatment)

A new paper ...

Editors scrutinize:

- **Subject matter**
 - appropriate?
 - too applied?
 - too mathematical?
- **Abstract, introduction, conclusions**
 - clear message?
 - new and significant physics?
- **References**
 - too few?
 - too old?
 - parallel submissions cited or omitted
- **Cover letter** (if any)
- **Overall quality** of presentation
 - figures
 - clarity
 - language

Referee selection...

We look for referees in

- **references** (authors of, referees of)
- **keyword** search in APS database for **referee expertise**
- **keyword** search in APS database for **manuscripts** (active/published/rejected)
- **keyword** search in other databases for manuscripts (SPIN, NASA, Google, etc.)
- **mental database**
- **suggested referees**

We generally avoid

- **undesirable** referees
- **coauthors** (current or previous)
- Referees **at same institution** as authors
- **acknowledged** persons
- Direct **competitors** (if known)
- **busy** referees (currently reviewing for PR/PRL)
- **overburdened** referees (> 15 mss/past year)
- **consistently slow** referees (>8 weeks to review)
- Referees who **consistently provide poor reports**

Mon Aug 17 11:06:58 EDT 2009

Jnl	all	active	available	used	used&avail	NA-UFN	NA-FOREVER
a	12366	9381 75.9	7928 64.1	5306 42.9	3022 24.4	1312 10.6	1402 11.3
b	28109	19744 70.2	16771 59.7	12046 42.9	6641 23.6	2673 9.5	2637 9.4
c	4558	3404 74.7	3028 66.4	1693 37.1	985 21.6	402 8.8	679 14.9
d	9185	7049 76.7	6125 66.7	3973 43.3	2235 24.3	889 9.7	1092 11.9
e	17146	14744 86.0	12622 73.6	9225 53.8	5120 29.9	1201 7.0	830 4.8
y	226	218 96.5	207 91.6	128 56.6	47 20.8	4 1.8	2 0.9
z	1178	1090 92.5	1009 85.7	576 48.9	284 24.1	51 4.3	30 2.5
	72768	55630	47690	32947			

Active means that ref is willing to review now

Available means that ref is not reviewing any other manuscripts now

Used means that ref has been sent ≥ 1 mss in last year

Used&avail means that ref has been sent ≥ 2 (not 1) mss in last year and is now not reviewing anything

Shown are numbers and percentages compared to all referees

Number of unique referees in dbase for all jnls= 57375

Number of unique active referees in dbase for all jnls= 43767

Number of available referees in dbase for all jnls= 38142

Number of used (≥ 1 per year) referees in dbase for all jnls= 24557

Number of used & available refs for all jnls= 13478

Number of referees in dbase not available UFN for all jnls= 5495

Number of referees in dbase not available FOREVER for all jnls= 5380

The role of the Referee...

Characteristics of a good report

- **timely** (inform us if you cannot review)
- **give a clear recommendation** (structure your report)
- **substantiated arguments** (e.g. if you say results are not new give at least one reference)
- reasonable level of **detail**
- **no remarks** that are **personal, polemic, self-serving, etc.**

Editorial processing / evaluation of a report

The editors may

- **edit a report for cause** (e.g. if too antagonizing)
- **withhold** a report (happens rarely)

The editors have access to all information pertinent to reports, i.e.

- experimentalist or theorist referee
- how close is the referee's expertise to subject matter of paper reviewed
- referee's experience
- referee's record as an author
- referee's record (easy/tough, often overruled,...)
- etc

=> Editors assign different value/weight to each report (i.e. they **evaluate** reports)

Resubmission...

Number One Rule:

Once you get the report(s) on your manuscript, sleep over it! Try to get into your groundstate! (or as close to it as possible...)

No matter how unfair, biased or idiotic the report seems to you, a calm reply is **always** best!

The referee might see your response, insulting her/him will not help you.

The editor has chosen the referee, and has considered the report suitable for transmission to you. Questioning this as obviously wrong is also not helpful.

An additional alternative referee may read your response. (S)he might feel for the “fellow referee”, remembering own bad experiences from the past.

Two More Rules:

- Rebuttals longer than the paper itself are suspect
- Sometimes, rebuttals or explanations given in the cover letter belong in the paper

Frequently made arguments that aren't arguments...

This subject is very important, so you should publish my paper.

Papers are of broad interest if they report a substantial advance in a subfield of physics or if they have significant implications across subfield boundaries. Is this paper of broad interest? My answer is: the subject has broad interest, but NOT the results.

right!

The referee found no mistake, (s)he only said it is not interesting.

Correctness is not sufficient for publication.

Two referees recommend publication, only one does not.

So what? Look at what the referee said. It is the content of a report that matters, not the vote.

Many papers on this topic have been published in PRL, see

So, enough already. This is an argument **against** publication, not **for** publication...

Resubmission...

Characteristics of a good resubmission

- **think** about the report first before you reply to them
- **give substantiated arguments** if you don't agree with some ref. suggestions
- **respond to all comments and criticisms**

Some Recent APS Projects

...new services for authors...

Release of Open Access (FREE TO READ) (November 21, 2006)



The American Physical Society (APS) is pleased to announce the release of FREE TO READ.

FREE TO READ allows individuals or institutions to pay a modest fee (\$975/PR article and \$1300/PRL) to provide access, through our sites, to the full text versions of selected articles published in APS journals at no cost to the reader and without a subscription. FREE TO READ is not limited to recent publications, and can be applied to any article or group of articles from APS's extensive archive which goes back to 1893. The payment form is available at http://forms.aps.org/author/Free2Read_2.pdf.

During the past few years the pricing of APS journals has been guided by the mission of APS to "advance and diffuse the knowledge of physics", and the desire to create an equitable sharing of the cost of publishing the physics literature between the larger research institutions and smaller schools. FREE TO READ serves both of these by, first, allowing anyone (Individuals, institutions, funding agencies, etc.), through the payment of a one-time fee, to make articles widely available outside the usual subscription model, and, second, by applying any initial modest revenue towards keeping the physics literature accessible to smaller institutions. The additional revenue will allow us to control small institution subscription prices and to experiment with new models for payment by these entities.

To highlight this release, the APS has made a selection of articles available. These FREE TO READ articles include many which are of current or historic interest to the general public - papers on a winning strategy for online bidding (Yang and Kahng, *Phys. Rev. E* **73**, 067101 (2006)) and the dynamics of epidemics (Gross *et al.*, *Phys. Rev. Lett.* **96**, 208701 (2006)), which were highlighted in the New York Times earlier this year; and, in honor of Albert Einstein, all 38 articles in the 1949 special issue of *Reviews of Modern Physics* commemorating his seventieth birthday, as well as the famous Einstein-Podolsky-Rosen paper (*Phys. Rev.* **47**, 777 (1935)) challenging quantum mechanics and Niels Bohr's response (*Phys. Rev.* **48**, 696 (1935)).

APS » Journals » Physical Review A » News, Announcements, and Editorials » Editorial: Which Wei Wang?

Article Lookup

Journal Search

Site Search

Editorial: Which Wei Wang? (December 3, 2007)

The APS journals receive manuscripts from scientists all over the world. For authors whose names cannot be expressed in Latin characters, their names in the byline must be transliterated, a process that is not necessarily bidirectionally unique. For example, the eight Chinese names 王伟, 王薇, 王维, 王蔚, 汪卫, 汪玮, 汪威, and 汪巍 all transliterate as Wei Wang. To remove some of the ambiguity arising from this unfortunate degeneracy of names, APS will allow some authors the option to include their names in their own language in parentheses after the transliterated name, such as Wei Wang (汪卫). The option to present names in the article byline in this manner is an experiment initially offered to Chinese, Japanese, and Korean authors, whose names can be expressed in Unicode characters. An example of a Japanese name is Tadanori Minamisono (南園忠則), and a Korean name is Chang Kee Jung (정창기). In the English text the given name precedes the family name, while the reverse is true for the characters. As we gain experience, we may be able to broaden this offer to other languages.

Authors who wish to try this option will need to prepare their manuscripts by following the special instructions at <http://authors.aps.org/names.html>.

Gene D. Sprouse
Editor-in-Chief
American Physical Society

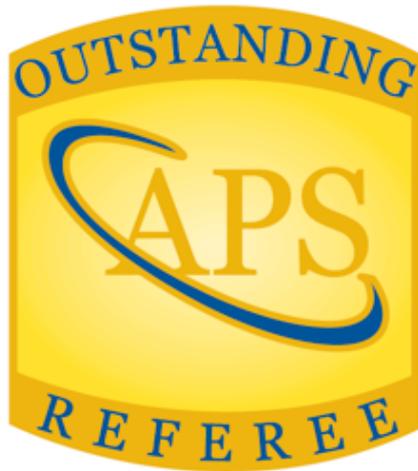
...new services for referees...

American Physical Society initiates recognition program for "Outstanding Referees" (March 10, 2008)

Ridge, NY, March 10, 2008 — The American Physical Society announces a highly selective award program to recognize scientists who have been exceptionally helpful in assessing manuscripts for publication in the APS journals. The program will annually recognize 130 of the 42,000 currently active referees, but in this inaugural year a larger group of 534 referees has been selected for the "Outstanding Referee" designation. Like Fellowship in the APS and other organizations, this is a lifetime award. By initiating the program, APS expresses its appreciation to all referees, whose efforts in peer review not only keep the standards of the journals at a high level, but in many cases also help authors to improve the quality and readability of their articles—even those that are not published by APS.

The selection of "Outstanding Referees" was made based on two decades of database records on over 50,000 referees (some no longer in active service) who have been called upon to review manuscripts, of which 33,000 were submitted in 2007. Most of the referees chosen in this inaugural year have given dedicated service for many years. The basis for choosing the 534 honorees was the quality, number and timeliness of their reports, without regard for membership in the APS, country of origin, or field of research. Individuals with current or very recent direct connections to the journals, such as editors and editorial board members, were excluded. The decision was difficult and there are many excellent referees that could not be recognized this year. In this first year of the program the lifetime of work contributed by a referee was emphasized. In future years, the focus will be on the more recent work of referees.

The honorees come from 33 different countries, with large contingents from the US, Germany, UK, Canada, and France. The names of this year's honorees are listed at <http://publish.aps.org/OutstandingReferees>, and will be printed in each APS journal. All have been notified, and have been sent a lapel pin and a certificate. Those honorees who attend the APS March meeting in New Orleans will be recognized at a simple ceremony during the meeting's prize and award session, and similar events are planned at other APS meetings during the year. The "Outstanding Referees" are to be congratulated and thanked for their outstanding service to the physics community.



- One-time recognition of outstanding referees
- Modeled after APS Fellowship
 - Certificate and Pin
 - Recognized during awards ceremony
 - Listed in journal and on APS webpage
- Focus on timeliness and quality in addition to quantity of reports
- Initially about 500, then about 100/year
- APS membership not a criterion

...new services for readers...

PHYSICAL REVIEW B 79, 075308 (2009)



Negative differential conductivity of two-dimensional electron-gas systems in high magnetic fields

J. C. Chen, Yuling Tsai, and Yiping Lin

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(Received 27 October 2008; published 10 February 2009)

Nonlinear effects of two-dimensional electron-gas systems at high magnetic fields are studied, and a current-driven instability is found to take place in magnetic fields corresponding to integer filling factors of Landau

Phys. Rev. B 79, 075308 (2009) [7 pages]

Negative differential conductivity of two-dimensional electron-gas systems in high magnetic fields

Abstract

References (28)

No Citing Articles

Download: PDF (617 kB)

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...and new content.

Physics – spotlighting exceptional research

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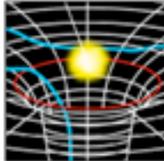
Viewpoints

For faster magnetic switching—destroy and rebuild



Riccardo Hertel, September 8, 2009
Magnetic switching is typically a continuous process, where a field pulse rotates a magnet from up to down, but it is now possible to do this faster — and with all-optical methods — by first quenching the magnetization to zero and then repolarizing it in the opposite direction. [Read More >](#)

Pushing the envelope of general relativity



Horatiu Nastase, August 24, 2009
A recent theory of gravity has stimulated intense debate and many explorations of its implications. [Read More >](#)

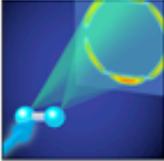
Vanquishing infinity



Hermann Nicolai, August 17, 2009
Quantum field theoretic extensions of Einstein's theory of gravity tend to suffer from incurable infinities, but a theory called $N = 8$ supergravity may actually avoid them—against expectations held for almost 30 years. [Read More >](#)

More Viewpoints >

Illuminating molecules from within



Marc J. J. Vrakking, August 31, 2009
Calculations show that with new short pulse x-ray light sources, it should be possible to use photoelectron emission to make movies of changes in molecular structure. [Read More >](#)

Coming Soon in Physics

- Magnetic relaxation in an iron nanoisland
- Advances in fluid dynamics

Features

- Keep up to date with *Physics alerts*.
- PDFs are now available for all articles.

Now in Focus

What Makes It So Hard?

September 4, 2009

According to a new theory, the extreme hardness of new layered materials comes from the strength of chemical bonds that are oriented perpendicular to the deforming force, rather than parallel, as might be expected.

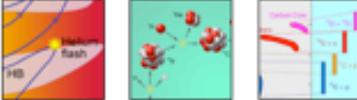
Editors' Suggestions

Papers the editors and referees find of particular interest, importance, or clarity.

Physical Review Letters

Trends

Cosmic alchemy in the laboratory



Michael Wiescher, August 17, 2009

From the Editors

Spotlighting exceptional research

Welcome to *Physics*, in which experts explain and comment upon just-published papers in *Physical Review* and *Physical Review Letters*. The APS has started this new publication to help physicists and physics students to learn about exciting new developments outside of their own subfield. [Read More >](#)

...and new content.

What?

★ Trends

- giving an overview over a “hot” field (“minireview”)
- written by experts in the field

★ Viewpoints

- comment on a paper recently published in PR (like “News and Views”)
- describe to a non-expert why the paper is interesting and important
- written by experts in the field

★ Synopses

- short summaries of recently published papers
- written by editors

Why?

- 🗣️ We publish about 18000 articles each year
==> We want to show you the articles you “cannot afford to miss”
- 🗣️ Some articles are important, but highly technical and accessible only to experts
==> We want to explain to a non-expert (but professional physicist) what these articles are about and why they are important

Lending an iron hand to spintronics

Piers Coleman

Department of Physics and Astronomy, Rutgers University, 136 Frelinghuysen Road, Piscataway, NJ 08854-8019, USA

Published January 20, 2009

The presence of iron in gold has long been known to lead to an increase in gold's low-temperature resistivity. Theorists argue that this "Kondo effect" may have implications for spintronics as well.

PRL 102, 036401 (2009)

 Selected for a Viewpoint in *Physics*
PHYSICAL REVIEW LETTERS

week ending
23 JANUARY 2009



Enhanced Spin Hall Effect by Resonant Skew Scattering in the Orbital-Dependent Kondo Effect

Guang-Yu Guo,¹ Sadamichi Maekawa,^{2,3} and Naoto Nagaosa^{4,5,*}

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(Received 17 September 2008; published 20 January 2009)

The enhanced spin Hall effect in Au metal due to the resonant skew scattering is studied with first-principles band structure calculations. Especially the gigantic spin Hall angle $\gamma_S \cong 0.1$ observed recently

Guang-Yu Guo,¹ Sadamichi Maekawa,^{2,3} and Naoto Nagaosa^{4,5}

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See accompanying Viewpoint commentary *Physics* 2, 6 (2009)



Received 17 September 2008; published 20 January 2009

The enhanced spin Hall effect in Au metal due to the resonant skew scattering is studied with first-principles band structure calculations. Especially the gigantic spin Hall angle $\gamma_S \cong 0.1$

Thank You!

FEEDBACK