

Making the case for your paper

Sami Mitra
Editor, PRL

Instituto de Física de São Carlos/USP
9 November 2016

PRL

One journal

Different communities

theoretical *experimental*

condensed matter *HEP*

“basic” “*applied*”

plasma physics *networks*

For each submission,
the *PRL* editor looks for
at least one of these:

substantial advance

opening of a new area of research

solution to a critical outstanding problem

singular appeal to all physicists

In other words,
“Why not a specialized journal?”

With any submission,
the author presumably expects

rapid, fair review

validation

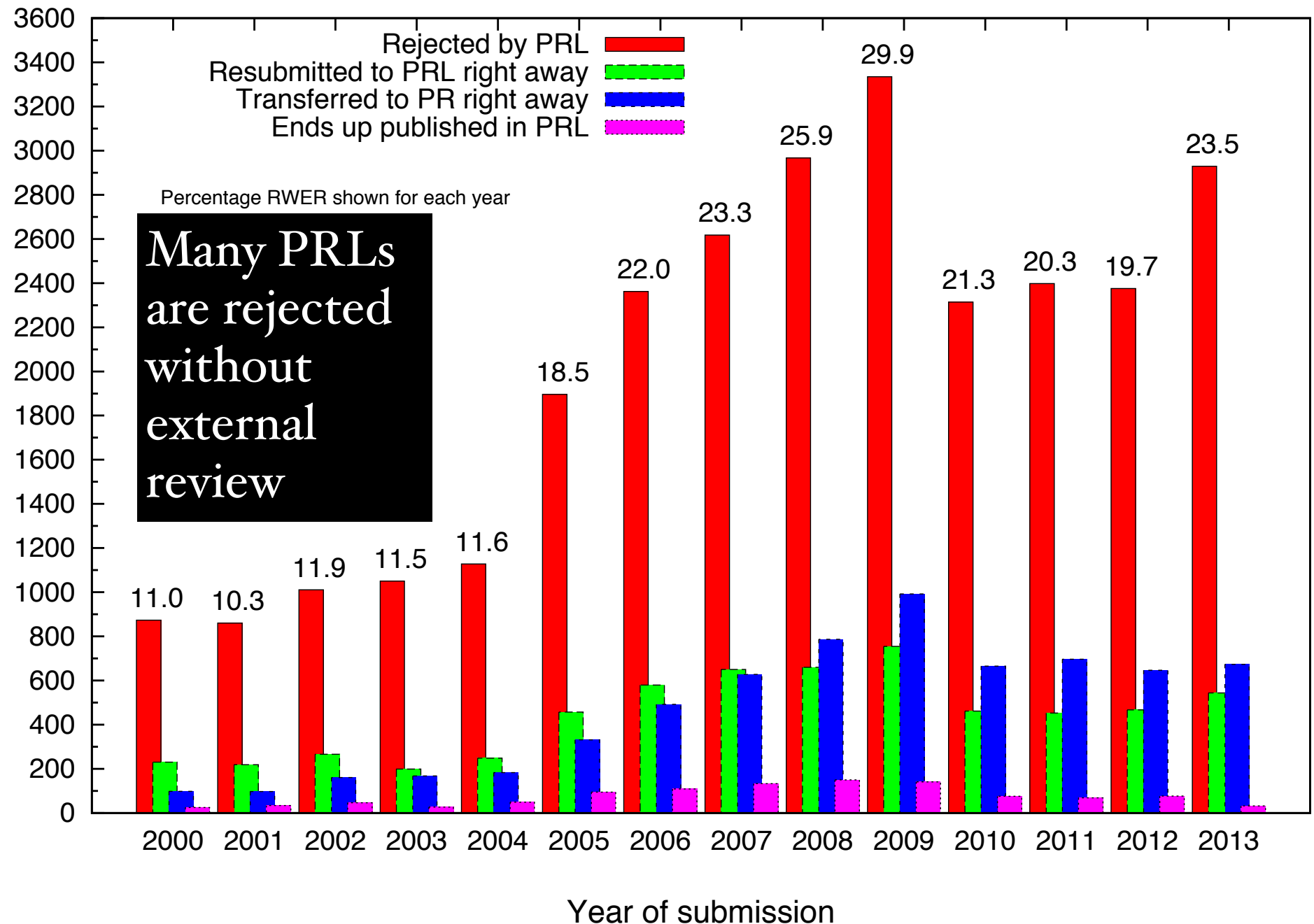
exclusivity

highlighting

wide visibility

... if the decision is positive.

PRL Submissions Rejected Without External Review



NYT 20 APRIL 1993

THE NEW YORK TI

Physicists Celebrate Unintelligible Journal

Equation-heavy, Physics Review marks its centenary.

By MALCOLM W. BROWNE

WASHINGTON

IT may be the most impenetrable periodical in the English language, and yet hopeful authors sent it 39,475 manuscripts last year, and its 6,000-odd subscribers paid up to \$1,000 each to read it. It is *The Physical Review*, now celebrating its 100th anniversary.

At a national meeting of the American Physical Society here on April 13, a crowd of prominent physicists from around the world packed a banquet hall to hear "Songs of the Physical Revue," a collection of science parodies written during his student days at Harvard University by the mathematician-turned-satirist Tom Lehrer.

Not always appealing to nonscientists, the Lehrer songs included numbers like "The Derivative," a sprightly ditty based on differential calculus. Other Lehrer songs on the bill were "The Slide Rule Song," which explains to students how to hide exami-

nation crib notes in a slide rule, and "Physicist's Love Song," which begins with the line "I love you, a liter and a gram."

The journal celebrated in the centennial observance rarely offers anything comprehensible to outsiders, however, much less anything to laugh about. It consists of pure, unrelenting science of the highest order.

Generally speaking, physicists do not much care whether outsiders understand what they write, but *The Physical Review* has plumbed new depths of unintelligibility, and its prose has become so opaque that the publishers recently felt obliged to impose new writing rules on some authors.

The rules are not uniformly applied. So many physics papers are published each week that *The Physical Review* comes out in six volumes, each one specializing in a field. (Physical Review A is devoted to atomic physics, optics and related matters; Physical Review B publishes papers on solid-state physics; Physical Review C covers nuclear physics; Physical Review D has to do with astrophysics and relativity, and Physical Review E covers plasma, chaos and complexity.)

None of these volumes is affected by the new intelligibility rule. But another section of the publication, called *Physical Review Letters*, now

Continued on Page C9

Hard-To-Read Journal Is 100

Continued From Page C1

demand a slightly less obscure style of prose. Dr. Benjamin Bederson, chief editor of the American Physical Society, said the lead paragraph of every article in *Physical Review Letters* must now be understandable to any physicist, not just those who happen to be experts in the article's arcane field. After the first paragraph or two, the paper may still be written as a thicket of difficult equations, but at least the average Ph.D. physicist who skims the top can now usually guess what it is about.

Physical Review will soon change the colors of its journals' covers from turquoise green to separate colors for the different sections, so they can be quickly distinguished from each other on library shelves. "We've heard some concern that this change may be too flashy for some of our subscribers," Dr. Bederson said, "but we must move with the times."

Library shelves around the world are groaning under the collected volumes of *Physical Review*, which now consumes about nine feet of shelf space a year; some scientists call the journal "the green plague."

"The theory of relativity," one of the physicists at the meeting inked

"states that nothing can travel faster than the speed of light," conveys no information. The editors of the journal acknowledge its alarming growth and ask them to appoint a watchman, and that at some point *Physical Review* will have to be published electronically rather than on paper.

Long Review Process

The society also hopes to change its publisher, of merit for 1932, the deadline for s

In *Physics Review*, intelligibility is required for only the first paragraph; then the equations begin.

manuscript to *Physical Review Letters* was three days before publication, but today the "referee" process, in which outside experts judge the value of a submitted paper, takes three months to three years.

A recent survey by the journal showed that most of its readers are satisfied. But scientists gave the referees who judged their papers only the equivalent of a C-plus grade.

Whatever its shortcomings, *The Physical Review* is a pillar of world science. Many of the greatest discoveries of modern physics first came to light in *The Physical Review*; among them were the discoveries of transistors, lasers, atomic resonance (which led to nuclear magnetic resonance instruments), the value of Planck's Constant, the fact that electrons can

chamber. The historic 1935 article by Albert Einstein, Boris Podolski and Nathan Rosen on some of the foundations of quantum theory was published in *The Physical Review*.

The editors are now trying to compile a volume with the tentative title "Physical Review's Greatest Discoveries." The selection process, in which hundreds of physicists are invited to vote on everything else about the journal.

Until 1931, the German periodical *Zeitschrift für Physik* ranked as the world's leading physics journal. In that year *The Physical Review* moved decisively ahead, and remained the world's premier physics journal ever since. Some 50 percent of the manuscripts it receives now come from abroad, with Germany, Japan and France among the leading contributors. Now that the cold war is over, Russian papers are also flooding the journal's office.

Many words first published in *Physical Review*, including some of the most important ones like "thermonuclear," have found their way into the English language.

"Whatever its readability," Dr. Henry Stroke of New York University, "The Physical Review class by itself. We already have 500 candidates for inclusion."

greatest
selectio

The physicist's communication gap!

NEW
EDITION

WILLIAM
STRUNK JR.
AND
E.B. **WHITE**

*"...still a little book, small enough and important enough
to carry in your pocket, as I carry mine."*

— Charles Osgood

The
ELEMENTS
of
STYLE

FOURTH EDITION

FOREWORD BY ROGER ANGELL

*Omit
needless
words.*

<http://www.bartleby.com/141/>

“Try to leave out the part
that readers tend to skip.”

Elmore Leonard

Keep it simple.

~~The measured PL spectra of a single one-micron-long SWCNT that encapsulates a chain-like agglomeration of colloidal ZnS QDs appear to be shifted with respect to PL spectra recorded for an empty SWCNT.~~

The photoluminescence spectra of an isolated carbon nanotube shifts when it encapsulates colloidal ZnS quantum dots.

The introduction at least should
be accessible to a *physicist who is
not in your field.*

Reference generously.

Adequately reference previous publications — be generous.

Cite current related work.

Avoid unnecessary self citations.

Do not over cite!

Simplicity.
Grammar.
Spelling.

Ask a colleague — a physicist not in your field — to read the paper.

Impressions matter,
first impressions matter more.

The cover letter.

Why this journal?

What did you do?

Which referees should and should
not the editors consult?

Are there competing papers/groups?

Justification:
Why are you submitting to *this*
journal?

Short and precise.

“Cut to the chase”.

Readers are busy and will often look only at the abstract (maybe just the title), introduction, figures, conclusion, and references.

The resubmission letter.

Keep it short!

Respond to referee reports in detail.

Be polite.

Describe revisions.

Do make confidential comments to the editors if needed.

Responding to reports.

Sleep on it.

Be collegial.

A resubmission letter that's longer than
the paper is suspect.

A paper should make a better case for itself
than the resubmission letter.

Almost always ...
It is in your interest more than
anyone else's that the paper is
published in the journal to
which you submitted it.
Make things as easy as you can
for the editors, the referees,
and the readers.



ALONE I JUMP,
TOGETHER WE SOAR.

Sam Goudsmit on statistical justice in the review process

“Over the years, if you submit enough manuscripts, your acceptance rate will be just about what you deserve.”

Laurence Passell, Physics Today, March 1988



Detection of *B*-Mode Polarization at Degree Angular Scales by BICEP2

P. A. R. Ade,¹ R. W. Aikin,² D. Barkats,³ S. J. Benton,⁴ C. A. Bischoff,⁵ J. J. Bock,^{2,6} J. A. Brevik,² I. Buder,⁵ E. Bullock,⁷ C. D. Dowell,⁶ L. Duband,⁸ J. P. Filippini,² S. Fliescher,⁹ S. R. Golwala,² M. Halpern,¹⁰ M. Hasselfield,¹⁰ S. R. Hildebrandt,^{2,6} G. C. Hilton,¹¹ V. V. Hristov,² K. D. Irwin,^{12,13,11} K. S. Karkare,⁵ J. P. Kaufman,¹⁴ B. G. Keating,¹⁴ S. A. Kernasovskiy,¹² J. M. Kovac,^{5,*} C. L. Kuo,^{12,13} E. M. Leitch,¹⁵ M. Lueker,² P. Mason,² C. B. Netterfield,^{4,16} H. T. Nguyen,⁶ R. O'Brient,⁶ R. W. Ogburn IV,^{12,13} A. Orlando,¹⁴ C. Pryke,^{9,7,†} C. D. Reintsema,¹¹ S. Richter,⁵ R. Schwarz,⁹ C. D. Sheehy,^{9,15} Z. K. Staniszewski,^{2,6} R. V. Sudiwala,¹ G. P. Teply,² J. E. Tolan,¹² A. D. Turner,⁶ A. G. Vieregg,^{5,15} C. L. Wong,⁵ and K. W. Yoon^{12,13}

Peer review remains important.
(BICEP2 Collaboration)

¹*School of Physics and Astronomy, Cardiff University, Cardiff, CF24 3AA, United Kingdom*

²*Department of Physics, California Institute of Technology, Pasadena, California 91125, USA*

³*Joint ALMA Observatory, Vitacura, Santiago, Chile*

⁴*Department of Physics, University of Toronto, Toronto, Ontario, M5S 1A7, Canada*

⁵*Harvard-Smithsonian Center for Astrophysics, 60 Garden Street MS 42, Cambridge, Massachusetts 02138, USA*

⁶*Jet Propulsion Laboratory, Pasadena, California 91109, USA*

⁷*Minnesota Institute for Astrophysics, University of Minnesota, Minneapolis, Minnesota 55455, USA*

⁸*Service des Basses Températures, Commissariat à l'Energie Atomique, 38054 Grenoble, France*

⁹*Department of Physics, University of Minnesota, Minneapolis, Minnesota 55455, USA*

¹⁰*Department of Physics and Astronomy, University of British Columbia,*

Vancouver, British Columbia, V6T 1Z1, Canada

¹¹*National Institute of Standards and Technology, Boulder, Colorado 80305, USA*

¹²*Department of Physics, Stanford University, Stanford, California 94305, USA*

¹³*Kavli Institute for Particle Astrophysics and Cosmology, SLAC National Accelerator Laboratory,*

2575 Sand Hill Road, Menlo Park, California 94025, USA

¹⁴*Department of Physics, University of California at San Diego, La Jolla, California 92037, USA*

¹⁵*University of Chicago, Chicago, Illinois 60637, USA*

¹⁶*Canadian Institute for Advanced Research, Toronto, Ontario, M5G 1Z8, Canada*

(Received 4 April 2014; revised manuscript received 13 June 2014; published 19 June 2014)

We report results from the BICEP2 experiment, a cosmic microwave background (CMB) polarimeter specifically designed to search for the signal of inflationary gravitational waves in the *B*-mode power

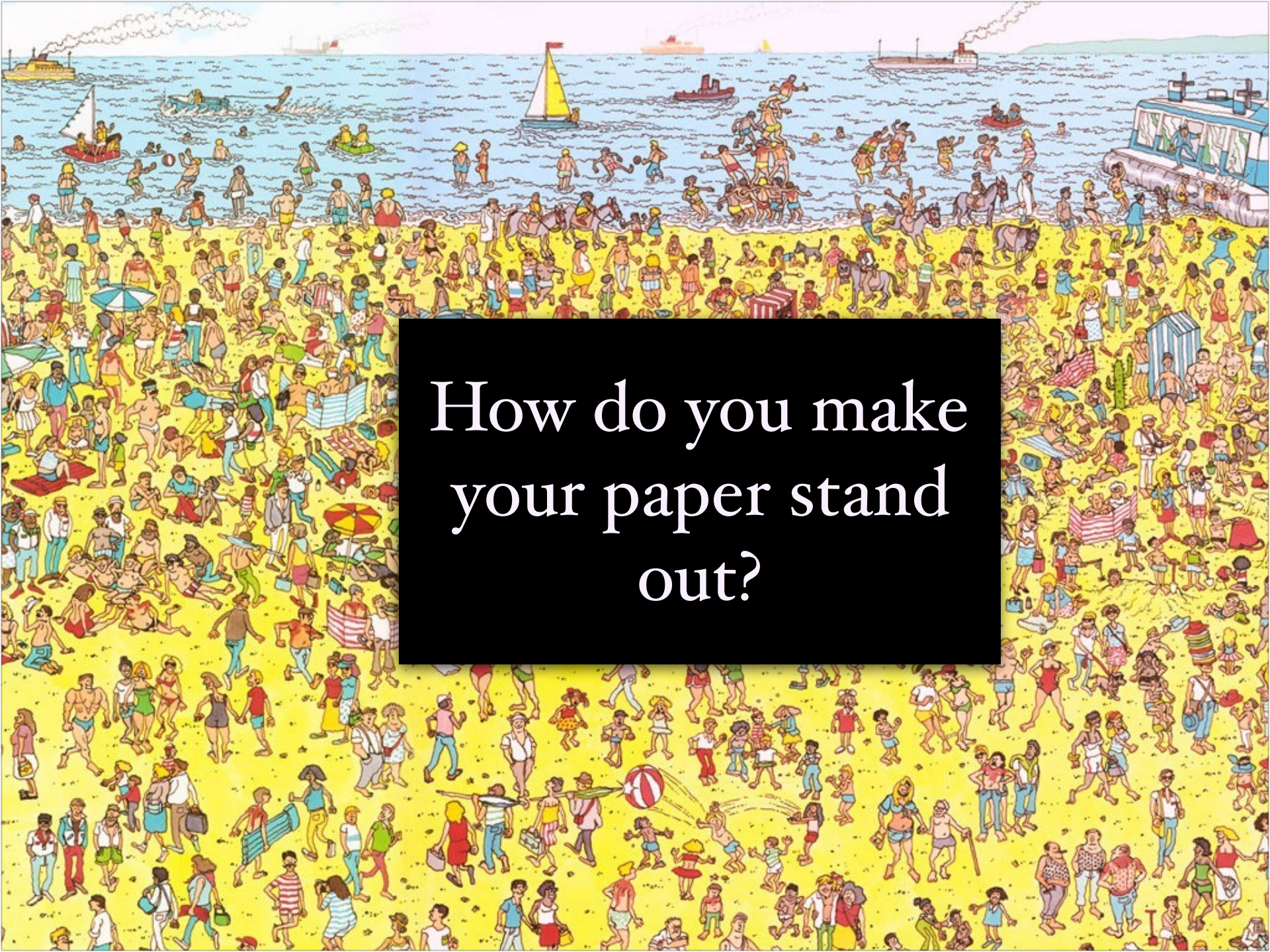
arXiv:1403.3985

Highlighting

The press and the public does not discover your paper by accident.

Metrics for highlighted papers

- Manuscript PDF Downloads (relative to average PRL):
 - Any Highlight: 2.5×
 - Viewpoint: 3×
- Press coverage:
 - Any Highlight: 40%
 - Viewpoint: 60%
- Citations (relative to average PRL):
 - Any Highlight: 2.5×
 - Viewpoint: 3×



How do you make
your paper stand
out?

Thank you!