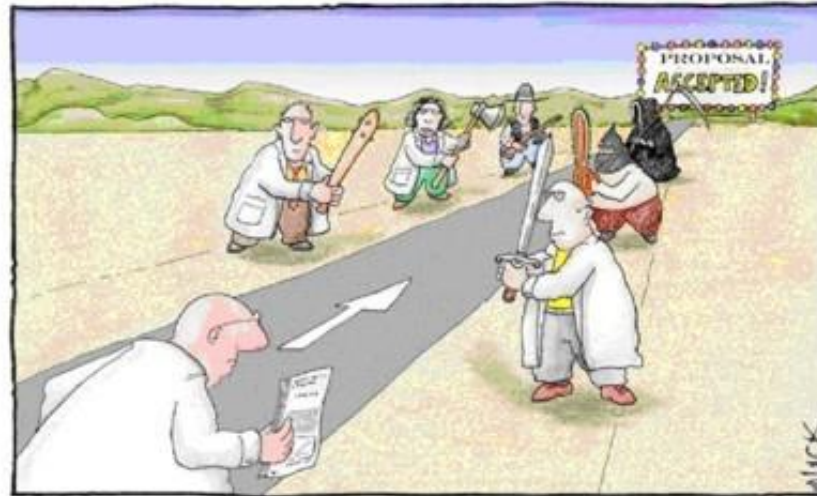


The Scientific Publication Process

Peer-Review

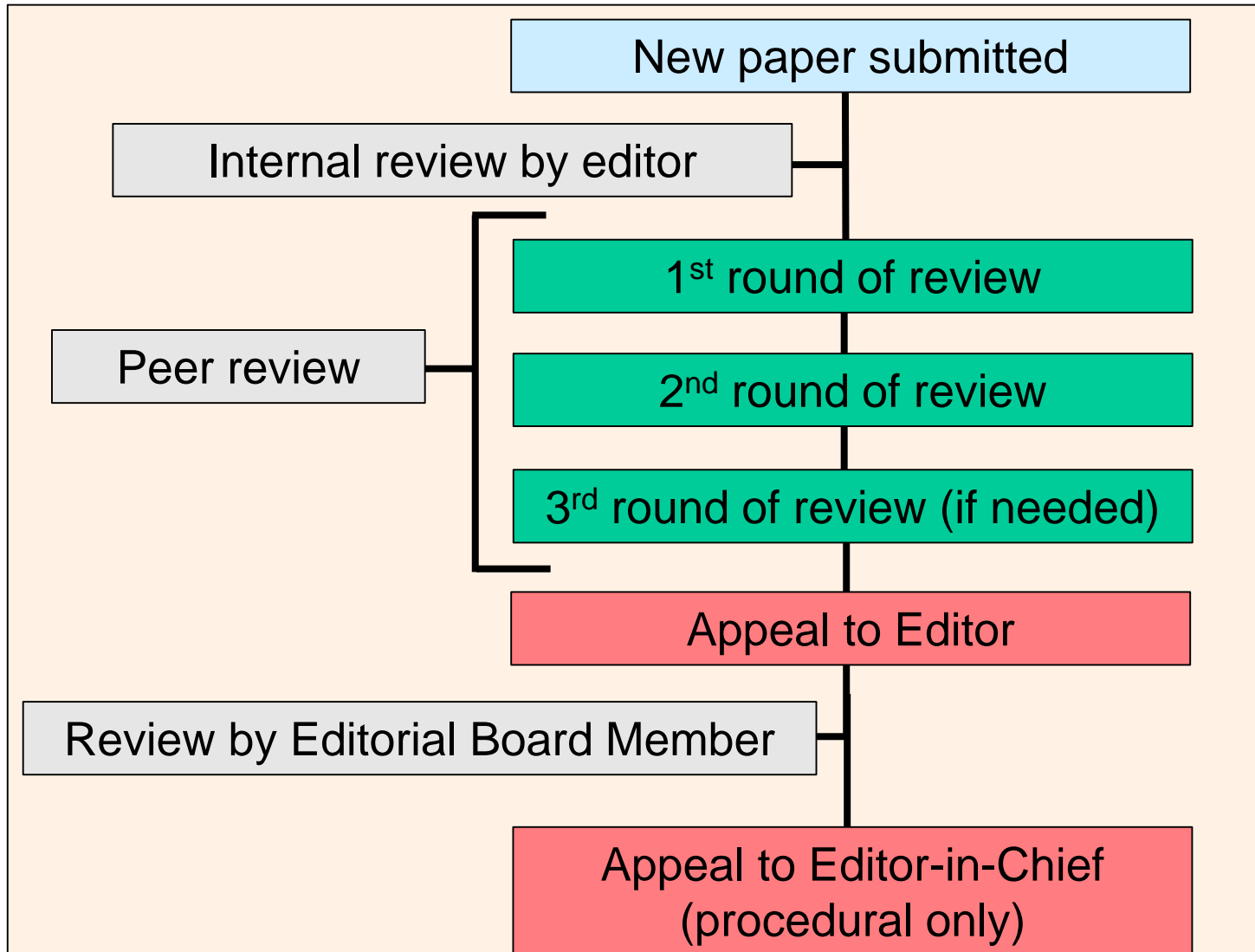


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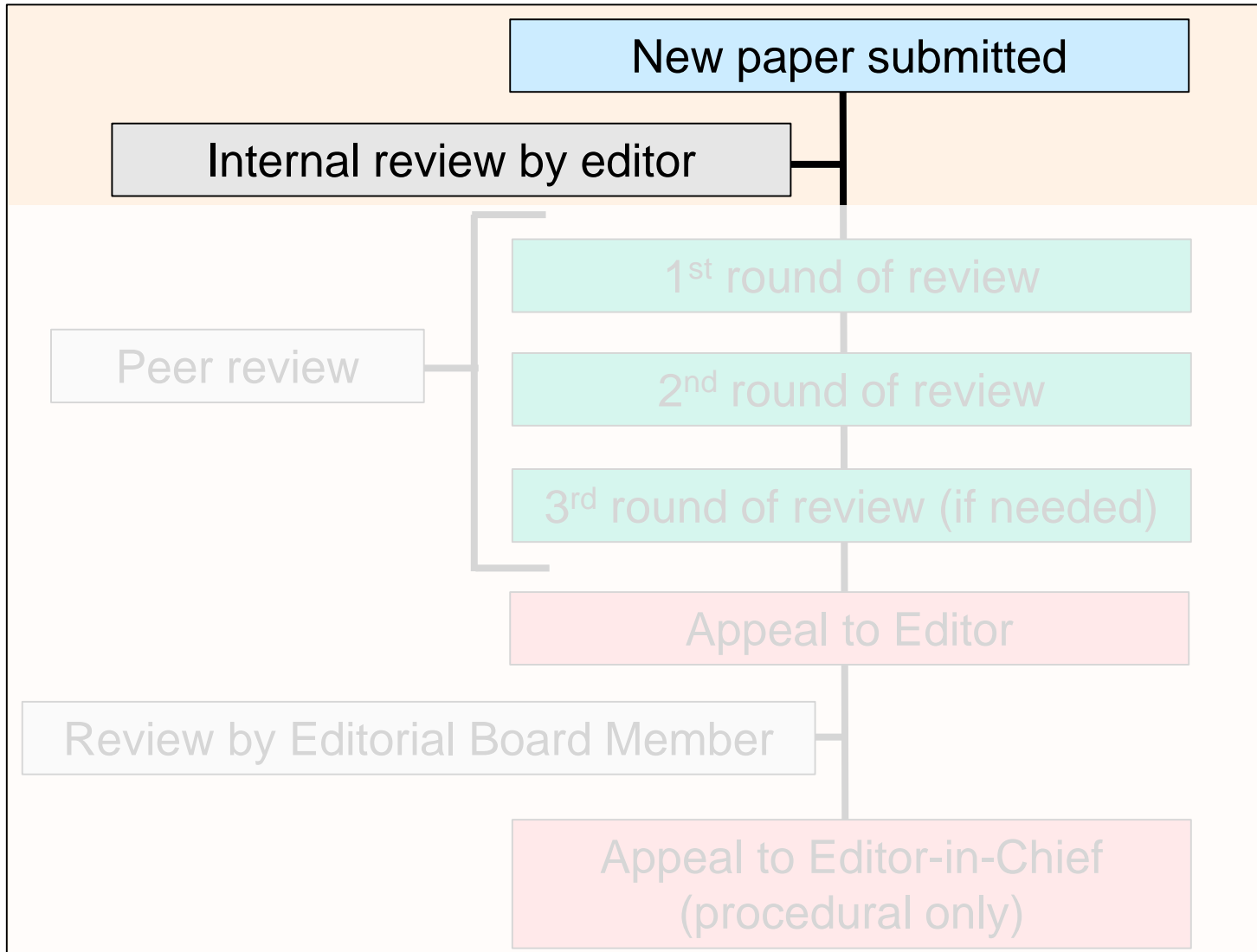
“Peer review meets analytics,” M. Antonoyiannakis,
<https://ws.engr.illinois.edu/sitemanager/getfile.asp?id=2903>

“Overcoming the Myths of the Review Process and Getting Your Paper Ready for Publication,” P.V. Kamat et al., *J. Phys. Chem. Lett.* **5**, 896–899 (2014).
<https://pubs.acs.org/doi/10.1021/jz500162r>

Summary of the *Physical Review* Review Process



The Internal Editorial Review Process



The Internal Editorial Review Process

What Is Internal Review?

- Editors assess the paper and decide whether to send out to external referees or **Reject Without External Review**
- If external review is needed, editors select the referees
- Typically, the handling editors makes these decisions themselves; occasionally, they will consult editorial colleagues, an Editorial Board Member, or a trusted expert for a yes/no opinion on whether the paper merits external review

To see full lecture, go to: https://physics.illinois.edu/careers-seminar/UIUC_Physics_Career_Seminar_Antonoyiannakis.pdf

Dr. Manolis Antonoyiannakis
Associate Editor, *Physical Review B*



The Internal Editorial Review Process

What Do Editors Look For to Make This Decision?

- They typically focus on the ***abstract, introduction, and conclusions***
- Is the quality of writing high?
- Is the subject matter suitable for the journal?
- What is the overall importance and quality of the paper?
- What's the punchline of the paper, and is this of interest and appeal to the journal's readership?

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Rejection Without External Review

How Do Editors Decide to Reject Without Review?

- Paper is **too specialized**, a **marginal extension**, or **incremental advance**
- Subject matter of paper doesn't match journal readership
- Presentation is sloppy, writing is opaque
- **The introduction:** lacks clarity, no context, describes prior work poorly, no broad picture, too many technical details, no motivation
- **References:** too many old, specialized references, or self-references
- **Conclusions:** no punch-line in the conclusions

What is the main message of the paper?

Why is the paper important?

How does the paper advance the field?

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Dr. Manolis Antonoyiannakis
Associate Editor, *Physical Review B*



Drafting a Cover Letter to the Editor

Typical organization of a cover letter to the editor:

Paragraph 1:

- Give title of manuscript and author list, journal name, type of paper you're submitting (regular article, Rapid Communication, Letter, etc.)
- Briefly explain the question your study sought to address and why this question is important

Paragraph 2:

- Concisely explain what was done in your study, the main findings, and why these findings are significant

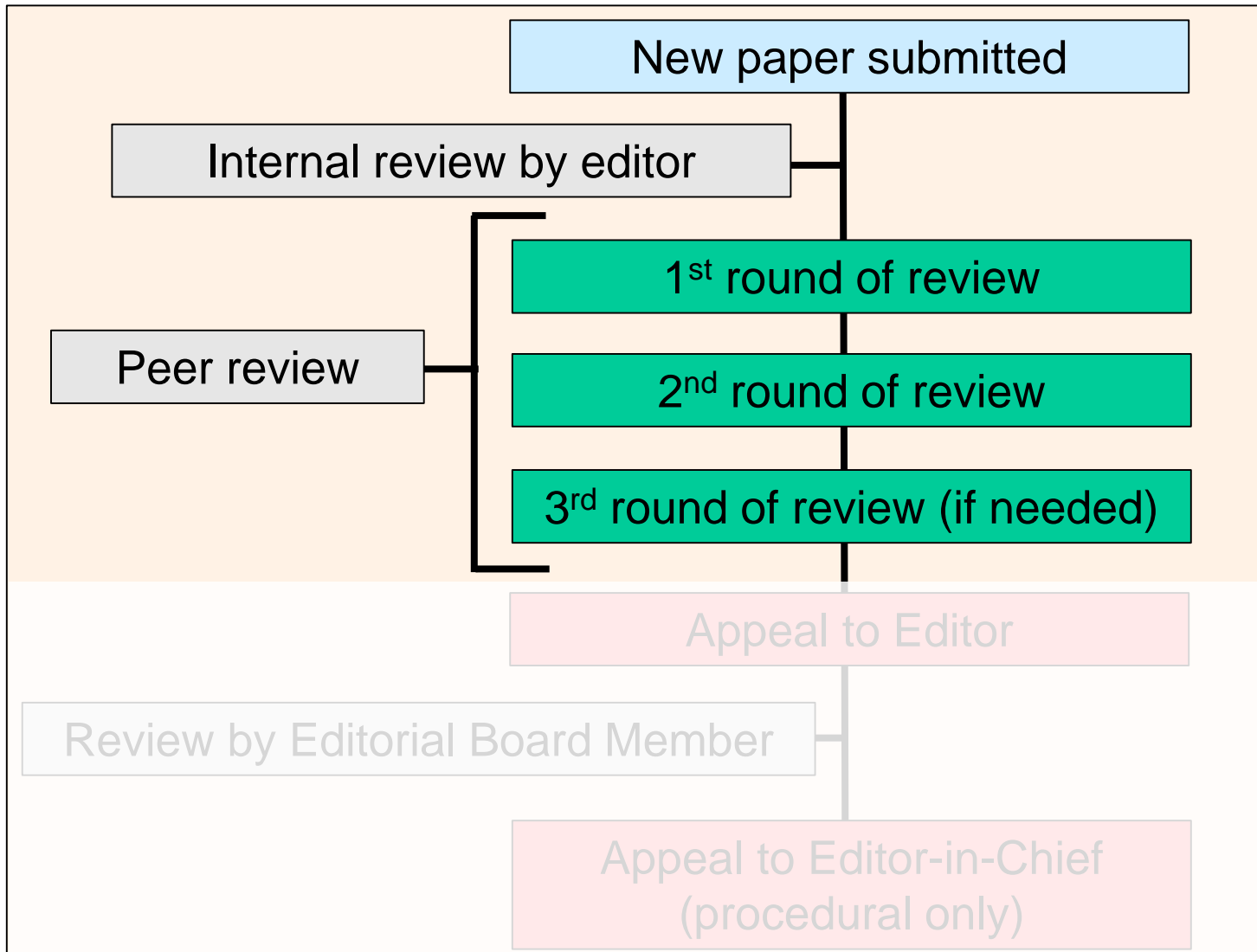
Paragraph 3:

- Briefly explain why readers of the journal would be interested in your research. This explanation should closely follow the journal's scope and readership.

Conclusion:

- List corresponding author and provide list of recommended referees and referees you'd like to avoid.

The External Review Process



How Will Your Paper Be Judged? *Physical Review Letters* Criteria

REFEREE RESPONSE FORM

(Please include this form with your full report)

Referee Please Note: This form is not a substitute for a full report

This form is to assist the Editors and is not a substitute for your written report. It may be useful, however, as an outline for your report, which should explain why the paper does, or does not, meet our criteria.

(1). Importance

I. Letters published in PRL must meet a high standard of importance and interest.

a) Please judge the importance of the paper to its specific field.

not important very important

(2). Broad interest

b) Please judge the broad interest of the paper, apart from its importance to its specific field, to a wide spectrum of physicists.

not interesting very interesting

(3). Validity

c) Please judge the validity of the paper.

probably not valid probably valid

(4). Accessibility

II. A Letter should have an introduction and conclusion that explains, in terms accessible to a broad audience, the physics context of the work: why it is important and what has been accomplished.

Please judge the introduction and conclusion.

not accessible very accessible

III. Recommendation:

NOTE: IF YOU ARE RECOMMENDING PUBLICATION IN PRL, PLEASE PROVIDE, IN YOUR REPORT, A SEPARATE STATEMENT AS TO WHY THIS PAPER IS APPROPRIATE SPECIFICALLY FOR PRL.

a) The paper should be published in PRL as it is.

b) The paper should be published in PRL after minor revisions are made, without further review.

c) The paper with revisions and further review, might be publishable in PRL.

d) The paper with extensive revisions, and further review could possibly be published in PRL.

e) The paper should not be published in PRL.

IV. Would you be willing to review the paper again? yes no

If not could you suggest alternative referees?

Typical Editorial Responses to a Paper Submission

1. Accepted with no changes **Rarely happens!**
2. Accept with minor revision
3. Major revisions needed before reconsideration
4. Outright rejection

Possible Referee Recommendations

III. Referee recommendation:

- a) The paper should be published as it is.....()
- b) The paper should be published after minor revisions, without further review.....()
- c) The paper, with revisions and further review, might be publishable.....()
- d) The paper with extensive revisions, and further review, might be publishable.....()
- e) The paper should not be published.....()

Authors see the reviews but don't see which of these recommendations the referee selects!

Interpreting Typical Editorial Responses

The exceedingly rare immediate editor acceptance after review:

A Referee recommendation for “***Publication As It Is***” will probably generate an editor letter that looks something like this:

“We are pleased to inform you that your manuscript has been accepted for publication. Your manuscript will now be prepared for the production process.”

This immediate positive response rarely happens after a single round of review, so don't get upset if you don't get this!

Interpreting Typical Editorial Responses

A Referee recommendation for “***Publication After Minor Revisions Without Additional Review***” will probably generate an editor letter that looks something like this:

“The above manuscript has been reviewed by two of our referees. Comments from the reports appear below for your consideration. When you resubmit your manuscript, please include a summary of the changes made and a brief response to all recommendations and criticisms.”

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Interpreting Typical Editorial Responses

It is sometimes difficult to tell paper status from editor responses:

A Referee recommendation for “***Possible Publication After Significant Revisions and Additional Review***” will probably generate an editor letter that looks something like this:

“We cannot accept your manuscript in its current form, but if you do decide to resubmit, then we would consider only a substantial revision.”

OR

“The resulting reports include a critique which is sufficiently adverse that we cannot accept your paper on the basis of material now at hand. We append pertinent comments. If you feel that you can overcome or refute the criticism, you may resubmit. With any resubmittal, please include a summary of changes made and a brief response to all recommendations and criticisms.”

These responses may sound like rejections, but they leave the door open to resubmit with significant changes

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Interpreting Typical Editorial Responses

True rejection letters from editors are typically short, with very little in the way of a hint that you should resubmit:

Referee recommendations of “***Manuscript Should Not Be Published***” will probably generate a terse editor letter that looks something like this:

“The above manuscript has been reviewed by our referees. On this basis, we judge that the paper is not appropriate for our journal, but might be suitable for publication in another journal, possibly with revision. Therefore, we recommend that you submit your manuscript elsewhere.”

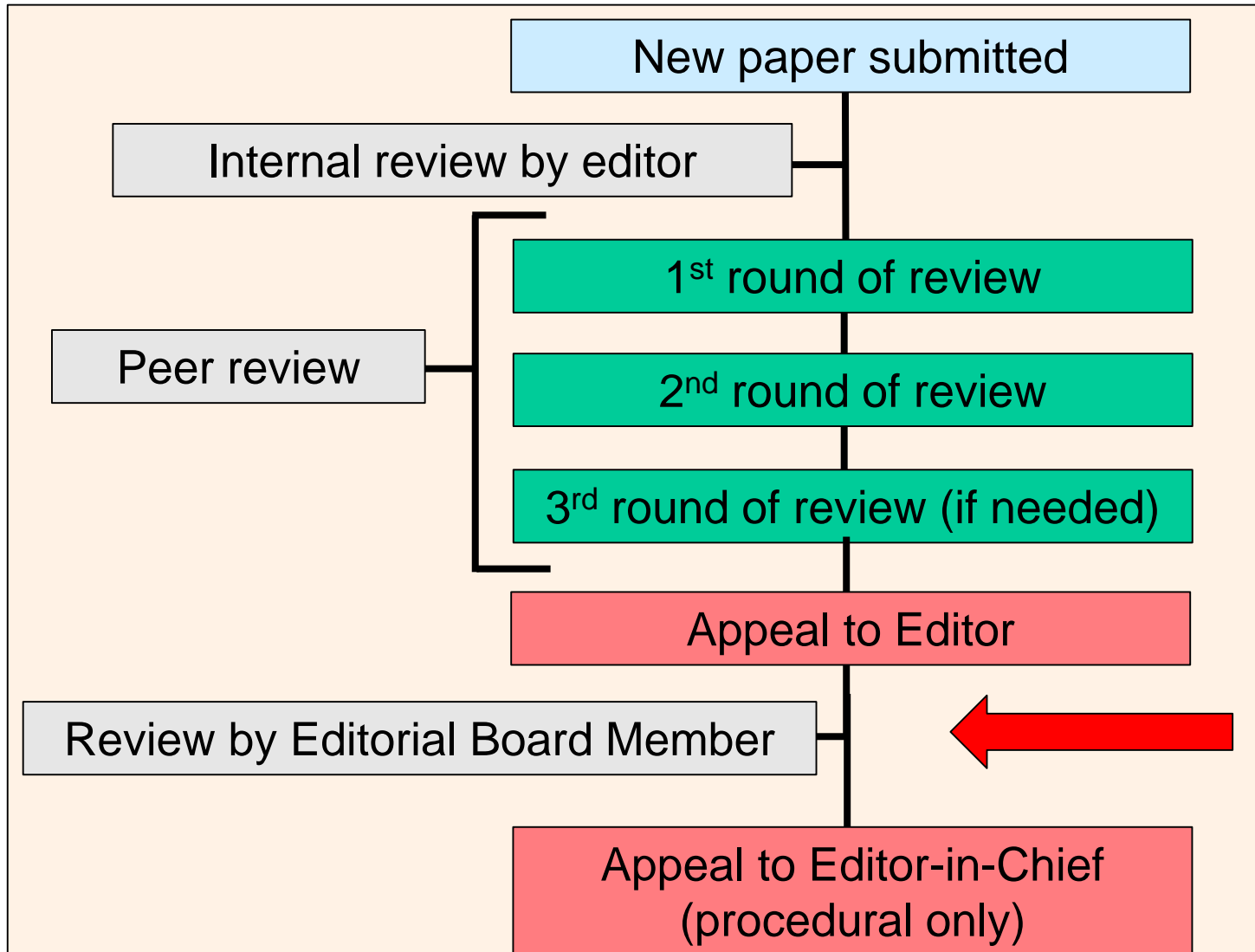
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Summary of the *Physical Review* Review Process



There is an appeal process if you're not happy with your reports

What Does a Divisional Editor/Editorial Board Member Do?

Divisional Editors/Editorial Board Members are assigned to review papers and the review process if authors appeal a rejection after peer review

- Divisional Associate Editors (DAE) and Editorial Board Members (EBM) see the complete review history and are asked to adjudicate the appeal and make a final decision on publishing the paper
- DAEs and EBMs can send the paper out for additional review or render a decision based upon the available reviews and author responses
- Unlike the anonymous peer review process, the decisions of DAEs and EBMs are not anonymous

Summary: Submitting a Scientific Paper for Publication

Choose the right journal: the overlap between the subject of your paper and the journal audience is an important selection criterion.

Write your papers clearly and accessibly: your abstract, introduction, and conclusion sections must be particularly well written and must clearly communicate your main points

Communicate your main points clearly: make sure to communicate clearly and repeatedly the main conclusions of your study, the reasons these conclusions are important, and the broader implications of your results on your field

Questions? slcooper@Illinois.edu