# AAS Peer-Review Workshop
# September 23, 2026
# University of Rhode Island

| | |
|---|---|
| 12:00pm - 12:45pm | Welcomes |
| 12:45pm - 1:00pm | Peer Review at the AAS Journals: Part 1 |
| 1:00pm - 2:00pm | Lab 1: Example Referee Reports |
| 2:00pm - 2:15pm | Break |
| 2:15pm - 2:30pm | Peer Review at the AAS Journals: Part 2 |
| 2:30pm - 3:30pm | Lab 2: Write a Referee Report |
| 3:30pm - 4:00pm | Graduation |
| 4:00pm | Thank you! |

# Welcomes

Name, Affiliation

## Optional:

What kind of astronomy do you like to do?

What do you want to get out of this workshop?

# AAS Peer-Review Workshop

## Part 1

AAS PUBLISHING
American Astronomical Society

AAS PUBLISHING
American Astronomical Society

# THE ASTRONOMICAL JOURNAL



AAS PUBLISHING
American Astronomical Society

# THE ASTROPHYSICAL JOURNAL



AAS PUBLISHING
American Astronomical Society

# THE ASTROPHYSICAL JOURNAL LETTERS



AAS PUBLISHING
American Astronomical Society

# THE ASTROPHYSICAL JOURNAL

## SUPPLEMENT SERIES



AAS PUBLISHING
American Astronomical Society

# THE PLANETARY SCIENCE JOURNAL



AAS PUBLISHING
American Astronomical Society

# RNAAS

## RESEARCH NOTES OF THE AAS



AAS PUBLISHING
American Astronomical Society

# BAAS

## BULLETIN OF THE AAS



A critical mission of the AAS Journals is to increase the scientific integrity of the field.




One mechanism to increase scientific integrity is peer-review of submitted manuscripts.

Our journals specialize in manuscripts presenting significant new results applied directly to astrophysical systems.

Remarkable brevity for what it does and does not say.

What is the goal of the peer-review process?

Who is a referee?

How often should I referee?

The goal of the peer-review process, as practiced by the community, is to improve a manuscript and arrive at publication.



The acceptance rate for the AAS Journals is ≃85% (≃50% for Letters). Similar rates hold for our sister journals MNRAS and A&A.

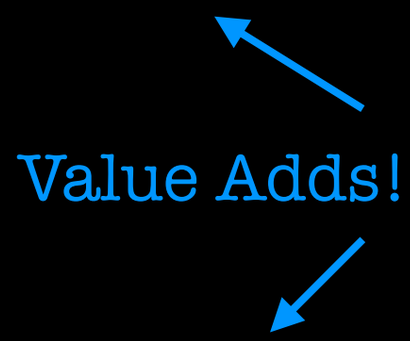
The peer-review process should thus be viewed as constructive.



We receive ≃160 new submissions each week.

Manuscripts that enter the peer-review process are checked with text-overlap tool.

Manuscripts with a statistical component are often viewed by the AAS Statistics Editor.




Manuscripts with a software or data component are often viewed by the AAS Data Editors.

# A Scientific Editor

- ✓chooses the referee(s)
- ✓supervises the peer-review process
- ✓adjudicates any impasses
- ✓makes the final accept/reject decision.

The Scientific Editor is expected to have a general knowledge of the subject of the manuscript.

The referee is expected to be an expert in the field.

What is the goal of the peer-review process?

Who is a referee?

How often should I referee?

We consider every publishing author as a potential referee:

- A subject matter expert, usually at the post-PhD level
- Not someone from the same institution
- Not someone known to be a mortal enemy
- Not someone known to be a close colleague

objectivity concerns

It is an honor to be asked to serve the community as a referee.



Referee requests are sent based on expertise and publications.

When you receive a referee request ask yourself 3 questions:

# Am I an expert?

Do you know the topic well enough to assess the

- ★ significant new results?
- ★ quality of the research?

If the answer to either is “no”, tell the Scientific Editor you decline. It is useful to suggest potential referees.

# Will I be able to meet the due date?

Some reports can take longer than others depending on the complexity of the manuscript.

Authors, of course, want a report as soon as possible (think of your own manuscripts).

It is OK to ask for more time if you need it.

# Do I have a conflict of interest?

If you are a colleague with one or more of the authors, helped with the research, or feel that you may be in *direct* competition, then let the Scientific Editor know.

https://journals.aas.org/professional-and-ethical-standards-for-the-aas-journals/

What is the goal of the peer-review process?

Who is a referee?

# How often should I referee?

# At least twice a year.



# Lab 1: Example Referee Reports

Skim a submitted manuscript. Read and discuss four referee reports at your table.

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# AAS Peer-Review Workshop

## Part 2

AAS PUBLISHING
American Astronomical Society

What service does a referee provide?

Preparing to write a report

Writing a good referee report

Guidelines for Using AI and LLMs

A good referee report serves both the authors and the Scientific Editor.

For the authors, it provides an independent, critical reading of the manuscript.

A good report:

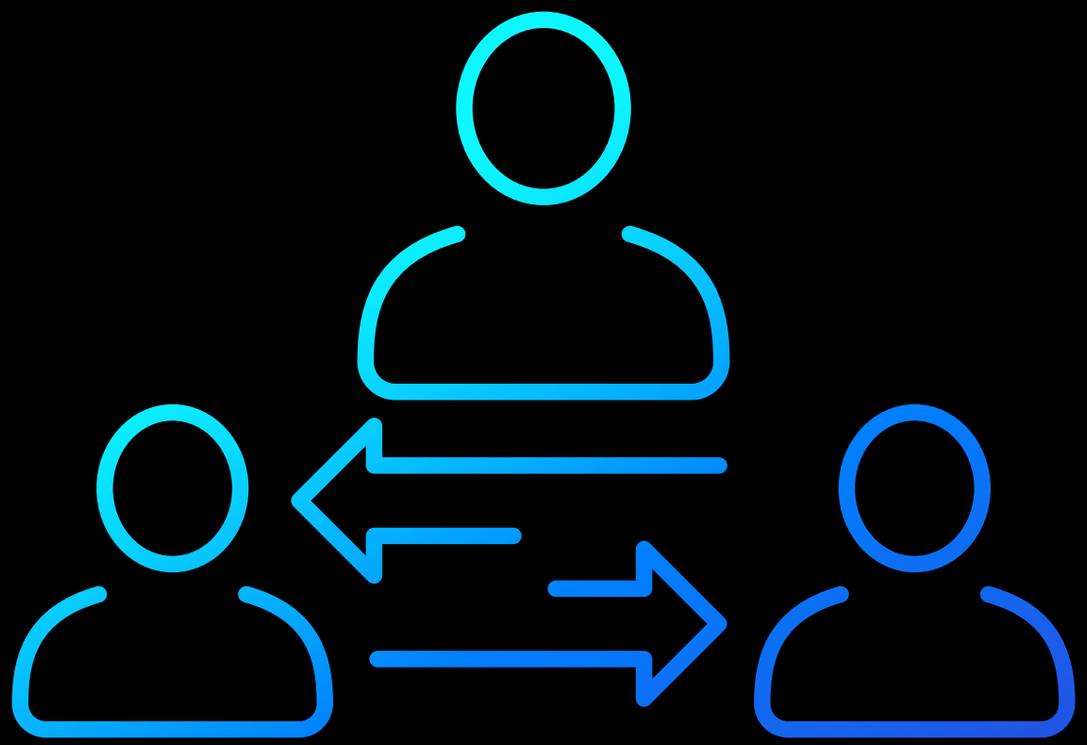



- ★ suggests improvements
- ★ advises contractions or expansions
- ★ flags weak or unstated assumptions
- ★ notes sloppy or nebulous presentations

For the Scientific Editor, a good report signals where there may be issues:

- ★ incremental extensions that do not meet the significant new results metric
- ★ improper citation or misrepresentation of the literature
- ★ basic errors
- ★ text-overlap
- ★ duplicate submission to another journal

Science Editors serve as arbitrators, mediators, and eventually as judges in the review process.



Referees provide input into the decision process.

On average, good reports range from a few paragraphs to several pages in length.

Quality, not length, is the metric of a good report.



What service does a referee provide?

Preparing to write a report

# Writing a good referee report

Three guidelines to help you provide a quality, on-time report as you first read a manuscript.

# Are there significant new results?

- ✓ Do the authors adequately explain why the work is novel?
- ✓ Have parts of the manuscript been published before?
- ✓ How relevant is the work to other researchers in the field?
- ✓ Is this an incremental advance over previous work?

# Is the work understandable and correct?

- ✓ Do you understand the work?
- ✓ Is it clear what the authors are trying to achieve?
- ✓ Are there sufficient references to provide background and put the work in context?
- ✓ Are the results backed up with evidence?
- ✓ Are there any unsupported claims?
- ✓ Are there any errors, flaws or mistakes?

# Is the work well presented?

- ✓ Does the title reflect the contents of the manuscript?
- ✓ Does the abstract contain the essential information?
- ✓ Are the figures and tables correct and informative?
  Are there too many, too few, too small, too large?
- ✓ Do the conclusions summarize the significant new results?
- ✓ Is the language clear?
- ✓ Is the manuscript an appropriate length?

What service does a referee provide?

Preparing to write a report

# Writing a good referee report

Start your report by summarizing the purpose and results of the manuscript.

This shows the authors and the Scientific Editor that you read and understood the work.

Give your opinion if the manuscript presents significant new results applied directly to astrophysical systems.

Be specific about what is interesting or good about the manuscript.

Be specific in any criticism. Don't just say “This result is wrong”. Say why it is wrong, and back up any criticism with evidence:  specific references, counter examples, mathematics, etc.

Clearly say what changes are needed to improve a manuscript and arrive at publication, if you think it could eventually be published.



The report has to convince the Scientific Editor, not the author(s).

You should make a recommendation:
Accept, Revise, Reject.

Be professional, polite, and civil in your report.

Review the research, not the researcher.





Do **not** make, imply, or insinuate personal comments, or criticize the author(s) as individuals or as a group.

We have new guidance on using AI and LLMs during a peer-review process.

https://journals.aas.org/referee-llm-guidelines

These guidelines cover:

1. Role of the referee
2. Model security and copyright
3. Transparency in use
4. Accuracy and style

The goal of the peer-review process, as practiced by the community, is to improve a manuscript and arrive at publication.



# Lab 2: Write a Referee Report

Read a submitted manuscript, write a referee report, and share them at your table.

Editors: Lead a "what happens next" discussion.

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