

AST1501 - Introduction to Research

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Refereeing and
referee reports

Peer review and referee reports

- Peer review is an essential part of the publication process for academic papers
- Peer review also typically involved for grant, telescope, and computing proposals
 - But typically no back-and-forth, just sometimes receive comments

Peer review when submitting papers

- After you submit a paper to a journal, editor sends it out for *peer review*
- Editor identifies expert(s) and asks them whether they can/are available to review (referee) your paper.
 - Editor sends abstract to prospective reviewer.
- If they accept, editor sends full paper, asks for comments in the form of a *referee report*
- The referee report makes a recommendation about the paper (accept/revise/reject). First report generally asks for revisions (major/moderate/minor)
- Editor then forwards the referee report to author(s) and asks them to respond by revising the paper and submitting a formal response to the report
- After re-submission, editor sends the paper and response back to referee, who can either say the paper is now okay, or start another round

Peer review when submitting papers

- Typical timeline:
 - Submission —> paper with editorial staff for a day or two (basic checks, identify editor)
 - Editor identifies prospective referee —> week or two, in exceptional cases more
 - Referees typically given three weeks to write a report (shorter for 'letter' journals), but often take at least four and anything up to two months is quite common
 - Editor generally forwards the report within a few days
 - Then given ~6 months to revise if revision necessary
 - Second (and third...) cycle often takes as long as the first...

Peer review when submitting papers

- Some tips:
 - Submission portal often asks to identify possible referees, but not necessary
 - Submission portal typically asks whether referees should be excluded
—> use very sparingly (i.e., never unless really necessary)
 - Some portals allow you to check where in the process a paper is
—> generally useful to track so you know when to raise concern
 - Main reason to complain about the process: referee takes too long.
Reasonable to ask about what's going on after two months

**The referee report: what you'll
get**

Referee reports

- Referees are tasked to check papers for correctness, clarity, and context and they will comment on all of these
- Context:
 - Introduction: is the new research well situated in the existing literature (with reasonable referencing)?
 - Discussion/conclusion: are the new results contextualized well within the existing literature
 - Other sections like methods, data, etc.: again, are new methods, data sets etc. well contextualized

Referee reports

- Referees are tasked to check papers for correctness, clarity, and context and they will comment on all of these
- Clarity:
 - Is the paper laid out and written in a style that makes it easy to understand the research?
 - Are all the necessary details given
 - Can the paper be shortened?
 - Are figures clear?

Referee reports

- Referees are tasked to check papers for correctness, clarity, and context and they will comment on all of these
- Correctness:
 - Referees generally do not (cannot) directly re-run the analysis described to check for correctness (except for pure theory papers)
 - Thus, paper needs to be plausibly correct (to broader expert):
 - Methods/data/etc. discussed in enough detail to assess, deviations from standard practices need to be justified
 - Sequence of intermediate steps needs to make sense, intermediate results given make sense
 - All results assessed for plausibility based on discussion: more scrutiny for ‘bigger’ claims

Referee reports: format

- Paper referee report is a separate text document with a list of comments (no in-text comments)
- Format and length varies widely: I have received referee reports anywhere between one short paragraph to pages and pages of plain text accompanied by fifteen pages of PDF comments
- Some reports go through the paper from front to back, listing all issues the referee found
- Some reports list bigger issues first, then more moderate and minor issues (including typos)
- Some reports are more free-flowing meditations on the merits of the paper
- Editors generally forward reports without any editing or even reading the report for its suitability

Referee reports: responding

- Response to a referee report consists of two components:
 - Revisions to the text —> all need to be clearly labeled in the resubmitted version (my preferred way: save original tex and use latexdiff)
 - A point-by-point response to the referee's comments in the report
- Rule-of-thumb: change something in the paper for every referee comment, even if you disagree with the comment
- My advice: always try to include the revised paper text in the point-by-point response, so referee can assess changes largely by reading your response
“To address this comment, we changed the text in the paragraph to read ‘.....’”
- Okay to push back on referee comments, but you generally don't want to push back on all or most comments

Referee reports: responding

- Stay neutral in your response, try not to guess who the referee is (you're probably wrong)
 - Don't get defensive
 - Give arguments for your viewpoint when pushing back, but always good to acknowledge differences of opinion and that you are taking them into account
- Generally not that useful to include figures just for the referee, but occasionally useful
- Responding to referee report generally your highest research priority (given length of process and importance of getting stuff published)

The referee report: how to write one

Writing a referee report

- Not unheard of for graduate students to be called upon to referee papers, so be prepared!
- First time: okay to ask your advisor for advice, respecting confidentiality of the process (can ask editor whether it's okay to share info with advisor)
- A good referee report:
 - Makes it clear the referee has read the paper and understood its main points
 - Clearly identifies major, moderate, and minor issues
 - Gives clear recommendations for improvements and how to address concerns. Don't just say there is a problem, say how it can be fixed

Referee report structure

- I prefer to write and receive reports on the shorter end of the spectrum (my colleagues clearly disagree based on the reports I get!)
- My preferred structure:
 - Opening paragraph with brief summary of the paper, its main conclusion(s), and its main method
 - Recommendation for the eventual fate of the paper (“would be acceptable as long as the concerns below are adequately addressed”)
 - <4 major issues with the paper and clear recommendation for how to address them
 - Moderate concerns: still big enough to be concerning, but should be easy to address
 - Minor concerns: minor issues with figures (colours, line styles, illegible, ...), mis-citation, innocuous math errors, typos not easily spotted by spell-check (I don’t do lists of typos)

The paper [REDACTED]
[REDACTED] by [REDACTED] conducts an in-depth
investigation of [REDACTED]
[REDACTED] The analysis is clearly informed by the detailed understanding
of the data processing and of the [REDACTED]
[REDACTED] The authors find significant [REDACTED] with complex
(and often sharp!) trends as a function of [REDACTED]
[REDACTED] although the magnitude of the [REDACTED]
is somewhat less than that in [REDACTED]

The analysis is thorough and the community will strongly benefit from
having this analysis available [REDACTED]
[REDACTED] I have some concerns about the methods used and the
presentation of the results and their uncertainty that I would like to
see addressed to at least some degree before I can recommend this
paper for acceptance.

My main concern with the paper is a methodological one: the paper goes
through a series of steps using different samples of [REDACTED]
[REDACTED] and
different subsets of the [REDACTED] to
build up a complex function that describes the behavior of the
[REDACTED]
[REDACTED]
[REDACTED] it feels a bit like a house of cards, because the function
is extended more and more by adding [REDACTED]
reference sources while keeping other parts of the function constant,

[REDACTED]

Lesser comments

The following are some smaller comments or requests for changes that I think would help the paper:

- * The [REDACTED] sample is central to the analysis in this paper, but very little is said about it. This would be good to add to the data section. How is the [REDACTED] sample obtained? Does it have any possible contamination?
- * It makes sense to use [REDACTED] as the parameter for the [REDACTED] function, but it would be helpful to give an approximate relation between [REDACTED] and [REDACTED] for people to quickly translate between a quantity that they are used to and one that's specific to [REDACTED]

Minor comments

Some typos and figure clarifications:

- * Fig. [REDACTED]: caption doesn't state what the different lines are. Captions also don't mention that one is for [REDACTED] and the other for [REDACTED].
- * Sec. [REDACTED], [REDACTED] paragraph: space at the end and an awkward sentence.
- * Fig [REDACTED] was the overall [REDACTED] removed for this figure? Presumably not! Might be good to overlay it.
- * p. [REDACTED] "should no be [REDACTED]" --> "should noT be [REDACTED]"

Referee report structure

- Length really depends on how many and how major the major issues are, but generally not longer than a few pages
- Focus on the paper you were sent, not the paper you would have written yourself
 - Focus is on making sure the paper is a useful addition to the literature that is plausibly correct
- When finding major concerns: generally ask the editor to see the revision and review it
- When finding only moderate concerns: determine whether you think the editor can just determine whether concerns are adequately addressed, then don't see the paper again (speeds up the process significantly; generally only the case for second revision)

Potential issues with peer review

Potential issues

- Most astronomy journals use only a single referee:
 - Good because you only have to deal with one person's comments (and guaranteed no conflict between comments)
 - But if you get a very negative review, you have little recourse for dealing with it
- Waiting length: reasonable to ask what's going on after two months, but aside from gentle inquiring, you can't really do anything to speed things up

Potential issues

- Referee recommends rejection (editor might say “your paper is rejected”):
 - Generally possible to ask for another referee to review the paper (for one-referee astro journals). New referee might see the previous report. If second review is positive, paper would generally be on track to be accepted
 - Have to make the case somewhat to the editor why your paper should still be considered
 - Or submit to another journal to start afresh
 - If you think the paper is worthwhile, re-submit somewhere (and use any feedback to improve)
 - Good and occasionally even great papers were originally rejected. Process is flawed, don't let it get you down