

Astronomy 401 Fall 2013 Guidelines for the Abstract

The assignment due this week is:

Present a short (1–2 paragraph) written abstract which summarizes the main topics and results which will appear in your paper, and a list of key references. This topic must be approved by the professor. A critical review of these by the instructor will be used as a guide for the student in developing the full Introduction.

The due date is **Monday Sept. 16**. Please upload your work on the Compass site, in **pdf format**. Your document should include

1. Your paper title. Write your own title, and make it *different* from your main paper's title.
2. Your abstract.
3. A short bibliography listing of a few key references.

It should go without saying, but to be totally clear: your abstract (and everything else you write) should be written **in your own words**. You should *not* copy the abstract of your main paper, and indeed you should *put away all text* (including your main paper) when you compose your abstract. If you can't write it without copying the original wording, then you need to re-read the paper and understand it better before you begin writing yourself.

If you have questions or concerns please do not hesitate to ask me.

Abstract

Your abstract summarizes your paper in a concise way. Generally abstracts are limited to one paragraph; 2-paragraph abstracts are rare, and usually only appropriate for very lengthy works, like PhD dissertations.

The challenge in an abstract is to write a clear, coherent summary that is understandable for your target audience. In your case, imagine your target audience to be a graduate of ASTR 406, but with no further expertise in your subject. Thus you may assume general 406 knowledge and terminology, but not any of the more advanced and specialized material in your paper.

Your abstract should include:

1. A brief (one sentence would be best) discussion of the context of your paper, i.e., why it is important and how it fits into the big picture of Galaxies and the Universe.
2. A succinct indication of the more specific motivation behind and/or aims of the work you are discussing.

3. A succinct indication of the methods used to obtain the results.
4. A summary of the key results. If the key results are predictions or measurement of one or a few key quantities, quote the most interesting or important numbers.
5. A brief mention of the conclusions and implications of the results.
6. An example of later work which followed up your main paper.

Citations: generally abstracts do not have citations. The one exception is actually relevant to your paper: if a paper is a directly response or followup to a single prior paper, the original paper will be referred to by the author(s) and year, e.g.: “Hubble (1929) showed that galaxy distances and velocities are linearly related.” It would be appropriate to cite your main paper in this way.

You may find it helpful to refer to discussion of abstract writing that came with the introduction of the “structured abstract” style recently adopted by the journal *Astronomy & Astrophysics*. I drew on this in writing the above list.¹

However, in *your* abstract, please follow ApJ style and do not explicitly mention each category with labels such as “*Context:*”, but rather simply address these issues.

Initial Bibliography

Include an initial bibliography of references that at this point seem important and that you will want to discuss. One will be your main paper, but also list **at least four other references** you expect to also discuss.

1. If you are writing on a theory paper, at least one reference should be an observational paper. If you are writing on an observational paper, at least one reference should be a theory paper.
2. At least one reference should appear in the bibliography of your main paper.
3. At least one reference should be a paper that cites your main paper, i.e., that came afterward it and draws heavily on it.

Please use *Astrophysical Journal* style in listing your references. This is discussed in the online ApJ site, linked on the course page and found at:

<http://aas.org/authors/manuscript-preparation-aj-apj-author-instructions#references>

¹ Bertout, C., & Schneider, P., 2005 A&A, 441, 3

<http://adsabs.harvard.edu/abs/2005A%26A...441E...3B>