How to Typeset a Paper for the KNAC Student Symposium Proceedings

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Abstract

This document serves both as an example of how a symposium proceedings paper will appear, and as a guide to the procedure necessary to produce the paper in the proper format. Several key concepts are outlined, including how to cite references, examples of how to include figures and tables, and where to get help when you have questions. To get the most out of this, you should read through the PDF output document produced, but also look at the source file (with the .tex extension), where the comments will give you additional information about how to produce the output you see here.

Introduction

This is where the introductory text of the paper would go. For example, we can cite references in the text by using the `\citep` and `\citet` commands, to cite the work of, for example, Bary et al. (2002), and others (Kwitter et al. 2013; Willman & Strader 2012). For including references in the final reference list, you can get Latex-formatted references directly from NASA ADS (`http://www.adsabs.harvard.edu/abstract_service.html`) - after finding the reference you want, click on "Preferred format for this abstract" and you will get a `\bibitem` record in LaTeX format that can be pasted into the references section of your document, and referred to in the paper by a shorthand tag that you create; see the source file of this document to see how it works.
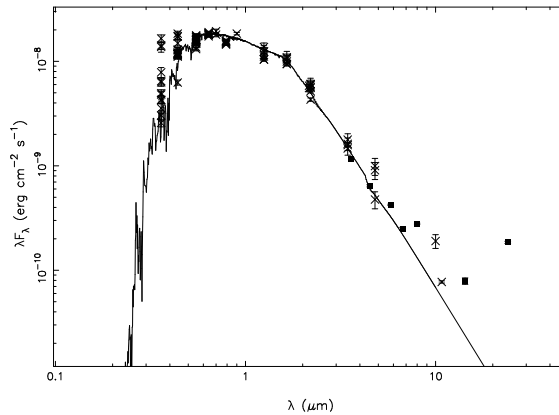

Fig. 1.— Example figure: The spectral energy distribution of DoAr 21, from ultraviolet (4000 Å) through infrared wavelengths. Spitzer and ISO data are shown as filled squares, and the 850 μm and 1.3 mm upper limits are not shown. The photometry has been de-reddened with $A_V = 6.2$ and $R_V = 4.2$ as described in the text. Overplotted is a model photosphere (solid line); the star shows a clear infrared excess at $\lambda \geq 8$ μm.

Table 1.   Example table: Photometry of DoAr 21

Filter	Flux within 0.″82 (mJy)	Flux within 2.″75 (mJy)	Flux within 6″ (mJy)
8.6 μm (PAH)	313	525	596
10.4 μm (Si-4)	176	300	347
11.3 μm (PAH)	234	680	816

Observations and/or Theory

Observations could go here (Table 1), and so on. We might also want to include figures in your paper (Figure 1). Note that the symposium proceedings are printed in black and white, so you should either convert your figures to grayscale, or at minimum ensure that they are still legible when printed that way.

Or perhaps your work is more theoretical, and has some mathematical notation embedded in it. It's easy to display math in-line (e.g. the code $L = 4 \pi R_*^2 \sigma T^4$ produces $L = 4\pi R_*^2 \sigma T^4$) or to have equations that are separated from the rest of the text, either using $$ or \begin{equation} and \end{equation} commands to surround them:

$$F_\nu = \frac{L_\nu}{4\pi d^2} \tag{1}$$

Length Guidelines

You should aim for a five-page paper (or eight pages if you are co-authoring a paper with multiple students). However, one of the slightly tricky things about LATEX is that you don't have much control over where it places figures and tables. (If you look at the source for this file, you may find that the figure and table don't come out in the document exactly where the code to produce them was located. They will never come out *earlier* in the text, but they will often come out later.) If you find that LATEX is (perhaps inexplicably) pushing your paper to six pages because it insists on putting a table or figure onto a different page, or leaves some blank space on a page, you can try playing around with where in the text you insert the commands to produce the figure or table. Ultimately, if you have a hard time getting it work, don't drive yourself (or your advisor) crazy trying to fiddle with it.

Getting Help

See the LATEX source code for this example document to get a sense of how particular commands produce the output you see here. The source document also has extensive comments explaining what the structure of the document is, and how particular commands work.

There are many print and on-line resources for help with LATEX. See the AAS web page `http://aas.org/aastex/aastex-documentation` for help with commands specific to AASTeX. In particular, there is a list of AASTeX symbols, including favorites like `\sun` (⊙) and the Angstrom symbol `\AA` (Å), at `http://authortools.aas.org/aastex/aassymbols.pdf`.

For citing references in the text and in the bibliography, most of this will take care of itself automatically if you copy your bibliographic entries from NASA ADS (see below) and cite them in the text using `\citet` or `\citep` as outlined above. You can either use this method where you copy the `\bibitem` entries directly into this `main.tex` file, however some of you may like to use Bibtex - in which case comment out the `%\bibitem` lines (with the % sign) and instead copy the full Bibtex code into the `references.bib` file. Discuss the preferred method with your supervisor. If you have any additional questions (e.g., how to cite something not listed in ADS, follow the guidelines given for the *Astrophysical Journal* at `http://aas.org/authors/manuscript-preparation-aj-apj-author-instructions`.

References

Bary, J. S., Weintraub, D. A., & Kastner, J. H. 2002, ApJ, 576, L73
Kwitter, K. B., Lehman, E. M. M., Balick, B., & Henry, R. B. C. 2013, ApJ, 768, 97
Willman, B., & Strader, J. 2012, AJ, 144, 76