

## **Astronomical Data Analysis Software & Systems XIV: Instructions for Authors Using L<sup>A</sup>T<sub>E</sub>X Markup**

**Abstract.** This manual describes the procedure for creating a L<sup>A</sup>T<sub>E</sub>X formatted paper suitable for submission to the ADASS conference proceedings. In particular, it describes how to employ special formatting techniques for hypertext links, equations, tables, and figures. Use the accompanying `template.tex` file, and the examples here and in the sample documents to prepare your paper.

### **1. Introduction**

In order to ensure that papers received for publication from different authors are consistent in format, style, and quality, authors are required to type their manuscripts in L<sup>A</sup>T<sub>E</sub>X format exactly according to the following instructions. The editors will modify the electronic manuscripts as necessary to insure that they conform to these standards.

Papers by invited speakers are allotted a maximum of ten (10) pages in the Proceedings. Regular oral presentations, posters, and demos are limited a maximum of five (5) pages each; BoF summaries are limited to one (1) page. Presenters of multiple papers will be permitted to submit a manuscript for each for inclusion in the Proceedings, *although it is necessary that we receive a completed Publication Agreement and Copyright Assignment form for each submission*. Because of the extremely high cost, color illustrations will not be published in the paper version of the proceedings, but may be included in the electronic version of the proceedings. All authors should send black-and-white figures, plus the color versions of their figures if they wish to. Any figure sent in color version only will be reproduced in black and white in the Proceedings book.

Authors must submit their manuscripts and associated figures electronically by **19 November 2004, 23:59UT**. See §6 for details on using anonymous FTP to submit your files.

### **2. L<sup>A</sup>T<sub>E</sub>X Markup Commands**

Authors should use the `adassconf` style file, and declare it as a substyle to the standard L<sup>A</sup>T<sub>E</sub>X `article` style. A copy of the style file, two sample papers, a template file, and further instructions are available at the conference web site. See the §6 file for instructions for paper submissions.

You should use only those markup commands from L<sup>A</sup>T<sub>E</sub>X plus the several extensions provided by this style file. Do *not* define any commands of your own for any reason (no `\def` or `\newcommand` statements).

## 2.1. Preamble

The first piece of markup in the manuscript must declare the overall style of the document and invoke the `adassconf` package.

```
\documentclass[11pt,twoside]{article}
\usepackage{adassconf}
```

The `\documentclass` command must appear first in any L<sup>A</sup>T<sub>E</sub>X file, and this one specifies the main style to be the L<sup>A</sup>T<sub>E</sub>X `article` style using eleven point fonts, with modifications and additions for the `adassconf` package.

If you do not have access to L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>, but do have access to the old L<sup>A</sup>T<sub>E</sub>X 2.09, then you can replace the `\documentclass` and `\usepackage` lines with

```
\documentstyle[11pt,twoside,adassconf]{article}
```

The author must include a

```
\begin{document}
```

command to identify the beginning of the main portion of the manuscript.

## 2.2. Paper ID Code

Authors must include their proper paper identification code using the `\paperID` command. The ID code for your paper is the session number associated with your presentation as published in the official conference program. You can find this number locating your abstract in the printed program that you received at the meeting or via the on-line program; the ID code is the letter-number sequence proceeding the title of your presentation.

The paper ID code will not appear in your paper; however, it allows different papers in the proceedings to cross-reference each other. You should only have one `\paperID` per submission, and it should not include a trailing period.

## 2.3. Contact Information

Authors should include a contact person and email address using the `\contact` and `\email` macros. This information will not appear in the paper but will be used by the editors in case you need to be contacted concerning your submission. Enter your name as the contact along with your email address.

## 2.4. Title, Byline, Abstract, etc.

Title and author identification are by way of the standard L<sup>A</sup>T<sub>E</sub>X commands `\title` and `\author`. An author's principal affiliation is specified with a separate macro `\affil`. Each `\author` command should be followed by a corresponding `\affil` (address). If possible, authors should limit the number of `\author` commands by grouping authors by affiliations.

```
\title{lucid text}
\author{name(s)}
\affil{address}
```

The `\affil` command should be used to give the author's full postal address. The address will be broken over several lines automatically; do *not* use L<sup>A</sup>T<sub>E</sub>X's `\\` command to indicate the line breaks. Please use mixed case text for *all* these fields rather than supplying all capitals; the style file will convert to upper case as necessary.

The article must contain an abstract enclosed in an `abstract` environment:

```
\begin{abstract}
abstract text
\end{abstract}
```

Do not include the word “Abstract” in your text; it is inserted automatically. And do not leave a blank line between `\begin{abstract}` and the start of the text of the abstract.

## 2.5. Author Index Specification

Use the `\paindex` and `\aindex` macros to indicate how each author name should appear in the author index. The `\paindex` should be used to indicate the primary (first) author, and the `\aindex` for all other co-authors. You **MUST** use the following syntax:

```
\aindex{LASTNAME, F. M.}
```

where *F* is the first initial and *M* is the second initial (if used). This guarantees that authors on multiple papers will appear only once in the author index.

The `\paindex` and `\aindex` macros are used to build the author list in the table of contents. Therefore, the macros should appear in the order of the names in the `\author` macros.

## 2.6. Page Headers

An article title and author list can appear in headers on alternate pages if the `\twoside` style option is used. If the title of the paper is too long to fit in the header, specify a shorter version using the `\titlemark` command, as in:

```
\title{Rapid Development for Distributed Computing, with
Implications for the Virtual Observatory}
\titlemark{Rapid Development for Distributed Computing}
```

By default, the author list is empty. Use the `\authormark` command to supply a value in one of these formats:

```
\authormark{LASTNAME}
\authormark{LASTNAME1 \& LASTNAME2}
\authormark{LASTNAME1, LASTNAME2, ... \& LASTNAMEn}
\authormark{LASTNAME et al.}
```

Use the “et al.” form in the case of seven or more authors, or if the preferred form is too long to fit in the header.

## 2.7. Subject Index Keywords

You must use the `\keywords` macro to enter up to 6 keywords describing your submission. These will NOT be printed as part of your paper; however, they will be used to generate the subject index for the proceedings. There is no standard list; however, you can consult the indices for past ADASS proceedings.<sup>1</sup>

## 2.8. Sections

The L<sup>A</sup>T<sub>E</sub>X `article` environment supports two levels of sectioning. (Actually, it supports more, but these are the relevant ones.)

```
\section{heading}
\subsection{heading}
```

Please use mixed case text for the section heads:

**“Conclusions and Future Work”** instead of  
**“Conclusions and future work”**

If one wishes to have an acknowledgments section, it should be set off simply with the command

```
\acknowledgments
```

## 2.9. Hypertext Links and URLs

Since the proceedings will be published in both paper and electronic form, you are encouraged to specify URLs to other relevant electronic documents when appropriate. Avoid links to personal files that may disappear after a few months, making the links obsolete.

The ADASS conference style provides several macros to ensure hypertext links and URLs are formatted properly in each version. The most used commands are `\htmladdnormallink` and `\htmladdnormallinkfoot`. These commands are analogous to the `<a ...>` tag in HTML, allowing you to link a piece of text to a URL. Both commands take two arguments: the link text and the associated URL. For example:

```
\htmladdnormallink{ADS}{http://adswwww.harvard.edu/}
```

Using `\htmladdnormallinkfoot` will cause the URL to appear in the printed copy of your paper as a footnote to that text (for example, when one refers to the ADS<sup>2</sup>). In the on-line version, the text will be an actual HTML link to that URL. `\htmladdnormallink` is just like `\htmladdnormallinkfoot` except that the URL does not appear in the printed version.

If you wish to have the URL explicitly appear within the body of your paper (rather than as a footnote) you can use the `\makeURL` or `\htmladdURL` command to format it:

---

<sup>1</sup><http://adass.org/adass/proceedings/>

<sup>2</sup><http://adswwww.harvard.edu/>

```
\makeURL{URL}
\htmladdURL{URL}
```

`\htmladdURL` will cause the URL to be a link to itself in the on-line version; with `\makeURL`, the URL will appear as plain text.

Note that it is not necessary to escape special characters like tilde (~) and underscore (\_) within your URLs when you enter them as arguments to any of these four commands. These special characters will be properly formatted in both the on-line and printed versions:

```
\htmladdnormallink{my document}%
{http://www.cfht.hawaii.edu/~crabtree/my_doc.html}
```

## 2.10. Equations

Displayed equations can be typeset in many ways using the standard displayed math environments of L<sup>A</sup>T<sub>E</sub>X; these three are probably of greatest use:

```
\begin{displaymath}
\end{displaymath}
\begin{equation}
\end{equation}
\begin{eqnarray}
\end{eqnarray}
```

The `displaymath` environment will break out a single, unnumbered formula. The equation will appear the same if it is set in an `equation` environment, and it will be autonumbered by L<sup>A</sup>T<sub>E</sub>X. In order to set several formulæ in which vertical alignment is required, use the `eqnarray` environment.

## 2.11. Tables

Tables may be formatted using the `deluxetable` environment. Details about this table environment can be found in the AAST<sub>E</sub>X user guide found online at the URL: <http://www.journals.uchicago.edu/AAS/AASTeX/>.

```
\begin{deluxetable}{cols}
\tablecaption{text}
\tablehead{column headings}
\colhead{text}
\startdata
data
\enddata
\end{deluxetable}
```

The `cols` specifies the justification for each column. One of the letters ‘l’, ‘c’, or ‘r’ is given for each column, indicating left, center, or right justification. The table width can be explicitly set with the `\tablewidth{width}` command.

The font size of the table information can be adjusted using the `\small`, `\footnotesize`, or `\scriptsize` commands right after `\begin{deluxetable}`. (Reducing the size of the text will reduce the readability of the table, however.)

*If you are using L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>, there is a bug in the style that prevents this from working; you will have to use a regular `tabular` environment.*

Tables may also appear in `table` environments, although the `deluxetable` environment is preferred.

```
\begin{table}
\caption{text}
\begin{tabular}{cols}
\end{tabular}
\end{table}
```

There should be only one table per environment. The `table` environment encloses not only the tabular material but also any title (caption) or footnote information associated with the table. Tabular information is typeset within L<sup>A</sup>T<sub>E</sub>X's `tabular` environment; the *cols* argument specifies the formatting for each column. Tables and figures will be identified with arabic numerals, e.g., "Table 2."; the identifying text, including the number, is generated automatically by the `\caption` command.

The `table` environment provides more control over column spacing than the `deluxetable` environment. Instead of reducing the font size when a table is too wide, it may be possible to use this control to make it fit. An example is given in the `sample2.tex` document (Table 3).

There is a `\tableline` command for use in `tabular` environments. This command produces a single horizontal rule. There should be two `\tableline`'s above and one below between the column headings, and one at the end of the table. Authors should not use additional `\tablelines`, and are discouraged from using vertical rules unless essential.

## 2.12. Figures as EPS Files

Authors who can prepare computer graphics in Encapsulated PostScript (EPS) format may use one of two additional markup commands to mark the point of inclusion, both of which should be used inside a L<sup>A</sup>T<sub>E</sub>X `figure` environment. If the DVI translator *dvips* (by Tom Rokicki) is available on your computer, it is also possible to prepare the final copy with such figures in place.

Before including the EPS figures in your text, be sure to rename the EPS files to conform to the name of your L<sup>A</sup>T<sub>E</sub>X file: *O4-1.1.eps*, *O4-1.2.eps*, etc. You will use these names in the markup commands for including EPS figures.

These markup commands are:

```
\plotone{file}
\plottwo{file}{file}
```

The *file* argument is used to name the file(s) to be included. The `\plotone` command includes one figure that is scaled to the width of the current text column; `\plottwo` inserts two figures side by side, and the pair is scaled to fit the text width. If one uses these macros, the necessary vertical space is provided automatically.

```
\begin{figure}
\plotone{O4-1.1.eps}
```

```
\caption{My EPS graphic.}
\end{figure}
```

or

```
\begin{figure}
\plottwo{O4-1_1.eps}{O4-1_2.eps}
\caption{Two related graphics.}
\end{figure}
```

Please note that the caption will be centered under the *pair* of graphics when `\plottwo` is used. It is not possible to caption the two plots individually with this package at this time. As with tables, figures will be identified with arabic numerals, e.g., “Figure 1.”

The scaling of the EPS plot may be adjusted with the `\epsscale{scale}` command, i.e., `\epsscale{0.8}`. Specifying `\epsscale{0.8}` should make the figure 80% as wide as the text on the page.

The reason that EPS figures refuse to be positioned properly with `\plotone` and `\plottwo` is usually a bad `BoundingBox` comment in the PostScript. The bounding box is supposed to be the smallest rectangle, with sides parallel to the edges of the paper, that surrounds all of the marks on the page. Extra white space can make a figure off-centered or hard to scale. If you can print the figure, the problem can be fixed by editing the EPS file and changing the `BoundingBox` comment, which contains four numbers: lower-left  $x$ , lower-left  $y$ , upper-right  $x$ , and upper-right  $y$  coordinates, measured from the lower-left hand corner of the paper in units of 72 per inch (0.35mm). If you use a PostScript preview program like `gs` or `gv`, you can position the cursor at the corners of the figure and read off the coordinates.

As a last resort, if further fussing with the positioning of plot on the printed page is necessary, you can try using this command:

```
\plotfiddle{file}{vsize}{rot}{hsf}{vsf}{htrans}{vtrans}
```

<b>vsize</b>	vertical white space to allow for plot, any valid $\text{\LaTeX}$ dimension
<b>rot</b>	rotation angle, in degrees, counter-clockwise
<b>hsf</b>	horiz scale factor, percent
<b>vsf</b>	vert scale factor, percent
<b>htrans</b>	horiz translation, in PS points 72/in (0.35mm)
<b>vtrans</b>	vert translation, in PS points 72/in (0.35mm)

If you *can* produce EPS but you do *not* have *dvips*, you can still put the `\plotone` or `\plottwo` commands in the the appropriate places, but you will have to comment them out and put in a `\vspace{dimen}` command to open up the text. The *dvips* program is in the public domain and is available from [labrea.stanford.edu](http://labrea.stanford.edu).

A special note to authors: Since it is sometimes necessary to edit EPS files to make them printable, authors should try to avoid EPS files with lines longer than 1024 characters.

### 2.13. Pasted in Illustrations

Illustrations must be inserted in the text at the appropriate places, with the relevant caption underneath each. The finished pages are reduced by 10% before printing. Thus, illustrations will appear somewhat smaller in print.

These illustrations should appear in `figure` environments.

```
\begin{figure}
\vspace{dimen}
\caption{text}
\end{figure}
```

There should be only one figure per environment. Space for the figure is created with the `\vspace` command; *dimen* should be a valid L<sup>A</sup>T<sub>E</sub>X dimension, e.g., “2.5in” or “7.1cm”.

*Size of Illustrations* The maximum width of an illustration is normally 13.4cm (5.25in) so that it will fit within the width of the text area. Of course an illustration may be smaller if appropriate. A large illustration may be placed sideways (“landscape”) on the paper if necessary.

*Halftone Illustrations (Photographs)* Good glossy original prints are required, black and white *only*; color plates cannot be reproduced. Photographs cut from other publications will not reproduce well, and usually infringe copyright. reduced the pasted-in version will be used for size and placement only; a copy machine can be used for this reduction. If a reduction is not supplied, leave appropriate space in text above the figure caption. The publisher will take care of the photographic reduction and mounting of the original glossy print in the space provided by your pasted-in version.

## 3. References

### 3.1. In the Text

The reference system to be followed is the standard ApJ system: author name(s) followed by the year in parentheses, as in Abt (1990), or author and year both in parentheses (Abt 1990). Multiple authors would be cited as (Groth & Pebbles 1971) or (Kron, Hewitt, & Wasserman 1984). For more than three authors use “et al.,” e.g., (Press et al. 1994).

### 3.2. Reference List

There is a `references` environment that sets off the list of references and adjusts spacing parameters.

```
\begin{references}
\reference bibliographic information
.
.
\end{references}
```



The *bibliographic information* should be in the order directed by Abt (1990): author, year, journal, volume, and page. For instance, the reference for this editorial would be typed in as

Abt, H. 1990, ApJ, 357, 1

Note that there is no comma following the author name(s), there is no trailing period at the end of the reference, and the entire line is set in the body typeface (no font changes). See `sample2.tex` for more complex examples.

To refer to a paper from this conference, use the `\adassxiii` and `\paperref` macros, and 2004 for the year. For example,

```
\reference Zacharias, N.\ \& Zacharias, M.\ 2004,
\adassxiii, \paperref{04-1}
```

will appear as

Zacharias, N. & Zacharias, M. 2004, in ASP Conf. Ser., Vol. 314, ADASS XII, ed. F. Ochsenbein, M. Allen, & D. Egret (San Francisco: ASP), [04-1]

in your preprint version of the paper; in the proceedings volume, the “[04-1]” will be replaced with the actual page number of the paper.

Care should be taken that each literature citation in the manuscript has its counterpart in the reference list and vice versa. Care should also be given to checking the accuracy of the references—author(s), date, volume, and page number. The accuracy of the references is the sole responsibility of the author.

### 3.3. Abbreviations for Journals

There are macros for many of the oft-referenced journals so that authors may use the L<sup>A</sup>T<sub>E</sub>X names rather than having to look up a particular journal’s specific abbreviation. Any stylistic requirements of the editors are taken care of by the macros, so authors need not be concerned about such editorial preferences.

<code>\aj</code>	Astronomical Journal
<code>\araa</code>	Annual Review of Astronomy and Astrophysics
<code>\apj</code>	Astrophysical Journal
<code>\apjl</code>	——, Letters to the Editor
<code>\apjs</code>	——, Supplement Series
<code>\ao</code>	Applied Optics
<code>\apss</code>	Astrophysics and Space Science
<code>\aap</code>	Astronomy and Astrophysics
<code>\aaps</code>	——, Supplement Series
<code>\azh</code>	Astronomicheskii Zhurnal
<code>\baas</code>	Bulletin of the AAS
<code>\jrasc</code>	Journal of the RAS of Canada
<code>\memras</code>	Memoirs of the RAS
<code>\mnras</code>	Monthly Notices of the RAS
<code>\pra</code>	Physical Review A: General Physics
<code>\prb</code>	Physical Review B: Solid State
<code>\prc</code>	Physical Review C:
<code>\prd</code>	Physical Review D:
<code>\prl</code>	Physical Review Letters
<code>\pasp</code>	Publications of the ASP
<code>\pasj</code>	Publications of the ASJ
<code>\qjras</code>	Quarterly Journal of the RAS
<code>\skytel</code>	Sky and Telescope
<code>\sovast</code>	Soviet Astronomy
<code>\ssr</code>	Space Science Reviews
<code>\zap</code>	Zeitschrift für Astrophysik
<code>\adassi</code>	ADASS I (1991)
<code>\adassii</code>	ADASS II (1992)
<code>\adassiii</code>	ADASS III (1993)
<code>\adassiv</code>	ADASS IV (1994)
<code>\adassv</code>	ADASS V (1995)
<code>\adassvi</code>	ADASS VI (1996)
<code>\adassvii</code>	ADASS VII (1997)
<code>\adassviii</code>	ADASS VIII (1998)
<code>\adassix</code>	ADASS IX (1999)
<code>\adassx</code>	ADASS X (2000)
<code>\adassxi</code>	ADASS XI (2001)
<code>\adassxii</code>	ADASS XII (2002)
<code>\adassxiii</code>	ADASS XIII (2003)
<code>\adassxiv</code>	ADASS XIV (2004)

#### 4. Examples

These instructions give an overview of the basic markup commands that need to be entered in a paper. Authors are encouraged to examine the sample papers that are included with the style file; these examples are named `sample1.tex` and `sample2.tex`. The file `sample1.tex` is a paper prepared with the ADASS-CONF macros utilizing a *minimal* amount of markup. A more “complete” paper

requiring most of the capabilities of the package is provided as `sample2.tex`; this file is annotated with comments that describe the purpose of the markup.

## 5. Reprints

Reprints of papers for these Proceedings are not available. Articles may be copied from the published volume.

## 6. Submission of Manuscripts

Completed manuscripts should be submitted via anonymous FTP using the following procedure:

1. Anonymous-FTP to `anon-ftp.ipac.caltech.edu`. Give “anonymous” as the login name and your email address as the password.
2. Change into the `incoming/adass2004` directory:

```
cd incoming/adass2004
```

3. Upload your files using the `put` command. Identify the L<sup>A</sup>T<sub>E</sub>X manuscript giving it a name using the paper identification code (e.g., “P12-3.tex”). Any EPS files should be identified in a similar way (e.g., “P12-3\_1.eps”, “P12-3\_2.eps”; see also §2.11). If you wish to upload any other files please name them using the same convention, i.e., starting with your paper identifier (e.g., P12-13.junk).
4. Disconnect by typing `quit`.

Here is how a sample session might look:

```
% ftp anon-ftp.ipac.caltech.edu
Name (emc2.relativity.com:aeinstein): anonymous
Password: A.Einstein@emc2.relativity.com
ftp> cd incoming/adass2004
ftp> put P12-3.tex
ftp> put P12-3_f1.eps
ftp> quit
```

If you have figures that cannot be sent in Encapsulated PostScript form, you can mail them to the address given in §7.

Manuscripts must be received no later than **19 November 2004, 23:59UT** in order to be assured publication in the Proceedings.

## 7. Copyright Agreement

All authors should have returned a completed form of the Copyright Assignment form, file during the conference. If you did not return the signed form to us at the conference, you must download the Copyright Assignment form<sup>3</sup>, and send or fax the completed form to the ADASS XIV editors at:

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<sup>3</sup><http://adass.ipac.caltech.edu/docs/Copyright-Form-ASP.pdf>

ADASS 2004 Proceedings  
c/o Patrick Shopbell  
Caltech, MC 105-24  
1200 E. California Blvd.  
Pasadena, CA 91125  
USA  
Fax: 626-568-9352

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