REVTEX Information For AIP Authors

Instructions to authors for preparing compuscripts to be submitted to AIP journals in REVTEX 3.1 format

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I. INTRODUCTION

The American Institute of Physics has been using author-prepared REVTEX files to produce author proofs since 1992. Author files are converted into code that can be used by Xyvision, AIP's composition system. Therefore, you may have noticed that these compuscripts look exactly like conventionally processed articles.

It is because of this conversion that it is imperative that the guidelines as set forth in the REVTEX input guide are followed exactly. Failure to comply with these guidelines may result in rejection of your file, and your manuscript will then be typeset from scratch.

At this time, all compuscripts follow conventional processing schedules. There are no accelerated schedules for compuscripts, nor are there any page charge reductions.

II. PARTICIPATING JOURNALS

AIP has established compuscript procedures for the following journals:

- The Astronomical Journal[1]
- Applied Physics Letters
- Chaos
- Computers in Physics
- Journal of Applied Physics
- Journal of the Acoustical Society of America
- Journal of Chemical Physics
- Journal of Mathematical Physics
- Journal of Rheology
- Journal of Physical and Chemical Reference Data
- Journal of Vacuum Science & Technology A & B[2]
- Medical Physics[3]
- Noise Control Engineering
- Powder Diffraction
- Physics of Fluids
- Physics of Plasmas
- Publications of the Astronomical Society of the Pacific[4]
- Review of Scientific Instruments

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[1] *AJ* authors are asked to use AASTEX an author markup package prepared by the American Astronomical Society. For more information on AASTEX send e-mail to `aastex-help@aas.org`. For instructions on how to submit a file electronically, send an empty e-mail message to `aj-instruct@aas.org`.

[2] Authors wishing to submit a REVTEX file to these journals may of course do so, but please be aware that this society prefers the use of AIP's Word/WordPerfect author toolkit. Information regarding this toolkit may be found on the AIP homepage (`http://www.aip.org/compuscripts.info.html`). The toolkit is available via anonymous ftp from ftp.aip.org in the directory`/ems`.

[3] See *JVA & JVB.*

[4] Authors may submit either AASTEX, LATEX, or TEX files. Send an empty e-mail message to `pasp-instruct@aas.org` for more information.

III. WHERE TO TURN FOR HELP

A. Procedural questions

For more detailed instructions on how to submit your REVTEX file, please see the ***Information For Contributors*** page in the journal you wish to publish in. Information can also be found on various journal homepages (most are accessible from the AIP homepage; URL: `http://www.aip.org`).

Please remember this "golden rule" of submission: Do not send a file electronically or on diskette to the editorial office unless (a) your article has been accepted for publication or (b) you are sure that the editorial office accepts files prior to acceptance of your paper.

B. REVTEX questions

Technical questions involving the use of REVTEX, transmitting files electronically, procedural questions, etc., can be answered by AIP staff. Please contact:

Liz Belmont
Compuscript Liaison, AIP
e-mail: esubs@aip.org
phone: 516-576-2454

C. Prior to manuscript acceptance

Some editorial offices accept original submissions via e-mail, but most do not. Contact the editorial office of the journal you wish to submit to for instructions on how to send your original file electronically. If you have already sent a hard copy of the manuscript to the editorial office, DO NOT send a file until you have been instructed to do so.

Note: When corresponding with the editorial office, ***always*** include an e-mail address. This will help to expedite matters when the time comes for you to send the file electronically.

D. After manuscript acceptance

Files may be submitted to AIP or the editorial office via e-mail or on diskette (PC or Mac, preferably high density diskettes). The editorial office will send you instructions on how and when to submit your file with your acceptance letter (or, depending on the editorial office, an e-mail message notifying you of acceptance).

You will receive notification with your page proofs as to whether or not your file was used by AIP, along with an author feedback form, outlining problems we had with the file, or perhaps offering suggestions on how to more easily prepare files in the future.

E. Editorial Office Contacts

Editorial office contacts are listed below (editor, editorial assistant, phone number, and e-mail address).

Applied Physics Letters

Dr. Nghi Q. Lam (Diane Kurtz)
708-252-4200
apl@anl.gov

Astronomical Journal*

Dr. Paul Hodge (Chaim Rosemarin)
206-685-2150
astroj@astro.washington.edu
*Do not use REVTEX. See Sec. II.

Chaos

Dr. David Campbell
(Janis Bennett, AIP; janis@aip.org; 516-576-2403)
217-333-3760
dkc@faust.physics.uiuc.edu

Computers in Physics

Dr. Lewis Holmes
(Patricia Daukantas: 202-745-1895)
301-209-3003
lh4@aip.org

Journal of Applied Physics

Dr. Steven Rothman (Diane Kurtz)
708-252-4200
jap@anl.gov

The Journal of the Acoustical Society of America

Dr. Daniel Martin
513-231-5278

The Journal of Chemical Physics

Dr. John C. Light (Mitty Collier)
312-702-7067
light@jcp.uchicago.edu

Journal of Mathematical Physics

Dr. Roger G. Newton
(Penny Brigham, 812-855-3576)
jmp@indiana.edu

Journal of Physical and Chemical Reference Data

Dr. Jean Gallagher/Dr. Malcolm Chase
(Julian Ives)
301-975-2204
jpcrd@nist.gov

Journal of Rheology

Dr. Morton Denn (Elizabeth Frey)
510-642-0176
jor@cchem.berkeley.edu

Journal of Vacuum Science and Technology A

Dr. Gerald Lucovsky (Becky York)
919-248-1861
jvst@mcnc.org

Journal of Vacuum Science and Technology B

Dr. Gary McGuire (Becky York)
919-248-1861
jvst@mcnc.org

Medical Physics

Dr. John S. Laughlin
(Linda Addonisio, 212-639-7414)
addonisio@mpcs.mskcc.org

Noise Control Engineering*

Dr. David K. Holger
515-294-6240
nz.dk@iastate.edu
* Word/WordPerfect toolkit preferred. See Sec. II.

Publications of the Astronomical Society of the Pacific*

Dr. Howard Bond (Denise Dankert)
410-338-4958
pasp@stsci.edu
* AASTEX, LaTEX, TEX preferred and accepted. See Sec. II.

Physics of Fluids

Dr. Andreas Acrivos (Cheryl Pahaham)
212-283-0962
pfa@lev.engr.ccny.cuny.edu

Physics of Plasmas

Dr. Ronald C. Davidson (Sandra Schmidt)
609-243-2424
physplas@pppl.gov

Powder Diffraction

Deane K. Smith (Mary Rossi)
814-865-5782
smith@psumrl1.psu.edu

Review of Scientific Instruments

Dr. Thomas H. Braid (Lynne Welsh)
708-252-8236
rsi@anl.gov

IV. REVTEX TIPS

You may have discovered that, although you followed all the instructions in the REVTEX input guide, your file was found to be unusable by AIP. Of course there will be circumstances beyond anyone's control (damaged disks, corrupt e-mail messages, etc.) that will render a file unusable. But there are some things that you, the author, can do before you send AIP the file to ensure that it *is* accepted and used to produce your page proofs.

AIP has developed a robust conversion to translate your file to our Xyvision page make-up system. This conversion was written based on the APS REVTEX input guidelines and the REVTEX template. If those instructions are followed exactly, and the correct REVTEX tags used, then the file will be converted without any problems. But we do recognize that you may be using your REVTEX file to produce preprints, so you may find yourself "tweaking" fonts or spacing, or even creating new symbols. However, for our conversion to work properly, it is absolutely necessary that you send AIP a "clean" file to work with.

Here are some things you can do to help us.

A. Author-Defined Macros

Not all author-defined macros are "bad." This used to be the case, but owing to the efforts of AIP's programmers, we are now able to globally expand "keystroke-saving" macros.

"Keystroke-saving" macros are macros defined via the `\def` and `\newcommand` family of commands. For example, "`\be`" would expand to "`\begin{equation}`" and would be defined in the beginning of the file as `\def\be{\begin{equation}}`.

So-called "bad" macros are custom macros that effect low-level formatting. It is not necessary to worry about the finer points of typesetting. Your file is being translated into another typesetting language, and no amount of moving and kerning of superscripts and subscripts and creating open-face fonts (for example) will change the way the final printed page looks like.

If you are going to use your own keystroke-saving macros, please list all of them at the beginning of the file, before the `\begin{document}` line. Do not sprinkle your defs (or redefine the same macros!) throughout your paper. Again, the macro expander will not work unless all author-defined macros are present at the beginning of the file.

The macro expander does not support Plain TEX commands at this time. Do not use `\else`, `\fi`, `\if`, `\input`, `\mathop`, `\mathrel`, `\special`. As for LaTEX constructions, please do not use `\newenvironment`, `\newfont`, `\newtheorem`, `\include`. Do not redefine labels, do not reset counters, etc.

B. Style files

At this time, there are no AIP journal-specific style files. Please use one of the ***Physical Review*** style files that most closely resembles the style you are trying to achieve. Do not use any private style files, or "ersatz" AIP style files found at various FTP sites. AIP does not support these files.

The easiest thing to do is to use the following documentstyle line.

```
\documentstyle[preprint,prb,aps]{revtex}
```

This documenstyle line will be sufficient for most journals printed by AIP. Using this documentstyle line will give you a preprint (12 point, one column) manuscript, with superscripted reference citation numbers. (If you wish to number your equation numbers by section, use the eqsecnum style; use amssymb, amsfonts for symbols and fonts, etc.)

C. Plain TEX and LaTEX files

Some authors will put the REVTEX documentstyle line at the beginning of a regular, "non-REVTEX" LATEX file and send it in as a bona fide REVTEX file. We ask that authors please do not do this, since it still requires us to go into your file and (a) edit the file into a "real" REVTEX file or (b) reject the file outright due to the amount of extra editing time it would take for us to make the file usable.

Use the REVTEX template. If you use the template and follow it implicitely, the odds of your file being used to produce your proofs will greatly increase. (See the APS input guide for more information.)

Do not use Plain TEX to typeset equations or tables. Use LATEX and REVTEX commands.

D. Cross-referencing commands

One of the most important things you can do is use cross-referencing commands that REVTEX and LATEX provide for `\section, \bibitem, and \cite`. Use `\ref` and `\label` for tagging figures and tables.

Not only will you get automatic numbering, but this markup will be translated by AIP's conversion software to create "SGML-like" hyperlinks, which will then be used in electronic journal products such as on-line journals and CD-ROM's.

E. Roman versus *italic*

One of the most prevalent problems we encounter with author files is the incorrect uses of roman and italic characters. As a rule, all math variables should be typed as italic characters in the file. Roman functions should be set in roman font. Units of measure should be roman also. All too often, a file has been found to be unusable for production of author proofs because of the number of fonts changes that would have to be made to the file by the keyboarder.

For example, if an author typesets math variables as roman characters throughout a file, it means that a keyboarder must go through the file and change each character by hand, one by one. At this point, then, it is much easier to typeset the article from scratch, and we may have to reject your file.

Conversely, some authors will typeset units of measure or abbreviations for elements in italic fonts. This time, the keyboarder would have to change all the italics to roman fonts, and once again, the file would have to be rejected.

Here is an example of a chronic problem. The author has typeset the elements as italics:

$$Ga_{1-x}As_{1-y}$$

The above ***should*** be typeset as shown below:

$$\mathrm{Ga}_{1-x}\mathrm{As}_{1-y}$$

Another example: "20 μm" is wrong. "20 μm" is correct.

Most math variables (with very few exceptions) must be typeset as italic characters.

Very often, authors will set roman functions as italic; these must all be changed to roman. Use `\sin, \cos, \tan`, etc., not `$sin$, $cos$, $tan$`, etc.

F. Equations

Do not attempt to break equations unnecessarily. Xyvision will do this automatically. For the most part, eqnarrays should only be used for matrices. Do not use Plain TEX commands (i.e., `$$` and `\eqno`).

G. References

Frequently seen errors are:

- Missing and/or extra punctuation (usually missing serial commas between authors' names).
- Spacing errors: these include not enough space between the authors' initials, awkward spacing of journal names, etc.
- Font problems: Journal titles should be roman, not italic; book titles should be italic, not roman; journal volume numbers should be emphasized in bold face, etc.

H. The best advice and the final word...

The best advice we can give you is, when you are in doubt about some stylistic question, check the latest issue of the journal you wish to publish in. Although most of the AIP-owned journals follow the same style rules, there are some society-owned journals whose style differs slightly (or somewhat greatly!) from the AIP style. Therefore, the final word may be found in the journal itself.

However, if you still have a question even after consulting the journal, you should contact the editorial office or AIP. Although the AIP Compuscript Liaison may be able to help you with these queries, you might want to consult with the Chief Production Editor in charge of the journal. A list of phone numbers and e-mail addresses may be found on the AIP homepage (see Sec. III A).

V. OTHER PACKAGES THAT CAN BE USED WITH REVTEX

- BIBTEX can be used to produce the bibliography section. Use the guidelines for *Physical Review*. But please remember to add the resulting *.bbl file to your main file.
- PostScript graphics files: At this time, AIP does not accept PostScript files. However, look for AIP to announce an author-prepared electronic graphics program in the near future. Until that time, please send hard copies of your figures along with the final hard copy version of your article to the editorial office.

VI. THE LATEST REVTEX INFORMATION

The latest information regarding the AIP Compuscript Program may be found on the AIP homepage. Point your browser to

`http://www.aip.org/epub/compuscripts.info.html`