

# **AMS Author Handbook**

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# General Instructions for Preparing Manuscripts

## Introduction

This handbook is intended for authors and keyboarders who are preparing books or articles that have been accepted for publication by the American Mathematical Society (AMS). Articles for electronic-only publications are processed pre-acceptance. Please refer to the section on electronic-only journals for information.

The AMS, one of the world's largest publishers of research literature in the mathematical sciences, uses  $\text{\LaTeX}$  to typeset its publications. You will find general information about  $\text{\LaTeX}$  and related subjects in the *TeX Resources* chapter. Information for contacting the appropriate departments at the AMS appears on the inside back cover of this handbook.

The AMS offers  $\text{\TeX}$ -related support software, such as  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\text{\LaTeX}$  and  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\text{\TeX}$ , which provides easy ways to code manuscripts that contain mathematical expressions. To encourage the use of  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\text{\LaTeX}$  and  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\text{\TeX}$ , the AMS has developed publication-specific author packages. These packages contain instructions and style files. By using the style files, you will shorten the time needed to publish your work and help reduce the price of the publication. You will find instructions for obtaining free author packages later in this handbook.

For electronic manuscripts, articles properly prepared using the  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\text{\LaTeX}$  style file automatically provide hypertext linking to the bibliography and other elements of the article for searching electronically on the World Wide Web. Because linking must often be added manually to submissions in other forms of  $\text{\TeX}$ , using  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\text{\LaTeX}$  also reduces the amount of technical intervention once the files are received by the AMS. This results in fewer errors in processing and saves the author proofreading time.  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\text{\LaTeX}$  papers also move more efficiently through the production stream, helping to minimize publishing costs.

There is a *Quick Start* chapter which offers step-by-step instructions for obtaining and using author packages.

Additional instructions for correctly encoding  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\text{\LaTeX}$  or  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\text{\TeX}$  submissions are given in the *Instructions for Preparation of Papers and Monographs* (this will be referred to throughout this handbook as the *Instructions*). These instructions are included in the publication-specific author packages (see *Obtaining and Processing Author Packages from e-MATH*) or in printed form from our Customer Services Department.

## The five types of submissions

The AMS divides submissions into five types depending upon whether the submission is camera-ready or not and upon whether the submission is electronic or not. In this handbook you will find a general overview of electronic submissions, general information about the different types of  $\text{\TeX}$  and the author packages, a description of resources available, and complete information for the preparation of nonelectronic submissions.

- An **electronic manuscript** is a TeX file prepared using  $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X or  $\mathcal{A}\mathcal{M}\mathcal{S}$ -T<sub>E</sub>X together with the appropriate style file, and following AMS instructions. The AMS strongly prefers  $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X submissions. The file is processed through the AMS production system, and an editorial proofreading is done. In most cases you will receive page proof to review before the final copy is printed.
- A **camera-ready electronic submission** is a DVI or suitable PostScript file you produce. (Contact AMS Technical Support for further details if you want to submit your entire article in PostScript format.) The final copy is printed by the AMS directly from your file. See the instructions for preparing camera-ready submissions later in this handbook and the *Instructions* document included in the author package. You are responsible for final formatting and proofreading.
- An **electronic-only journal submission** is a file prepared using  $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X or  $\mathcal{A}\mathcal{M}\mathcal{S}$ -T<sub>E</sub>X together with the appropriate style file, and following AMS instructions, for an article that will appear on the Web, with no corresponding print publication. Accepted papers are processed through the AMS production system, and an editorial proofreading is done. You will receive page proof for review before final copy is posted to the Web. Submission information is available on the World Wide Web starting at URL: <http://www.ams.org/journals/>.
- A **nonelectronic manuscript** is a manuscript prepared without using the style files. A nonelectronic manuscript is keyed by the AMS as an  $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X file. An editorial proofreading is done, and usually page proof is sent to authors for review before the final copy is printed. For nonelectronic manuscripts it is important that the manuscript be typed with at least double spacing and with generous margins on both sides ( $1\frac{1}{4}$  inches). The double spacing provides clear separation of subscripts and superscripts and also permits changes to be inserted directly above portions crossed out. The margins allow the copyeditor to write instructions to the compositor. The pages of the manuscript should be numbered consecutively in the upper right-hand corners. This ensures that the absence of a page or a misplaced page will be noticed.
- A **camera-ready nonelectronic submission** is material submitted by authors that is photographed by the AMS and then published. See the instructions for preparing camera-ready submissions later in this handbook. You are responsible for final formatting and proofreading.

The types of submissions that can be accepted depend on the specific publication; for example, journals generally do not accept camera-ready submissions. If you do not know the types of submissions accepted by the publication that you are submitting to, contact the Acquisitions Department.

The AMS has created generic style files which can be used if you are preparing a paper or monograph and are uncertain to which publication you will be submitting. See the list of available author packages on the back cover of this handbook.

### Permissions

Authors are responsible for obtaining written permission to use another person's work—including pictures, figures, and other art—whether or not it has been

previously published. If the work has been previously published, the publisher is usually empowered to grant permission, but that is not always the case; the author or an heir sometimes retains such rights. Permission is not necessary, of course, for use of work in the public domain (such as U.S. government publications or works on which the copyright has expired), but credit should be given, in any case, to the originator of the work.

Authors are advised to begin writing for permissions *as soon as a manuscript has been accepted for publication* by an editor or editorial committee. The Acquisitions Department will assist an author in obtaining permissions if such assistance is requested at least *six weeks* before the paper is due to the AMS. A copy of the letter(s) granting permission must be sent to the AMS with the submission.

### General resources

For general advice on writing mathematics, see [SHSD] and [NJH]. For information of a more specific nature including selecting notation, rules for spacing and breaking mathematical expressions, English usage, the appropriate format for references, a list of mathematical symbols, and the symbols used in proofreading, see [MIT] and [NJH]. In your bibliography, use the abbreviations given in [ASMR].

### Graphics

Graphics are classified in either electronic or nonelectronic format. Refer to the *Graphics* section of the *Instructions* document included in your author package if you are uncertain about specific coding. If your submission is prepared as a camera-ready submission, refer to the section on *Graphics placement* in the *Camera-Ready Submissions* chapter in this handbook.

**Electronic graphics.** Figures may be submitted to the AMS in an electronic format. The AMS recommends that graphics created electronically be saved in encapsulated PostScript (EPS) format. This includes graphics originated via a graphics application as well as scanned photographs or other computer-generated images.

Many popular graphics applications under a Macintosh, Windows, or Unix environment allow files to be saved in EPS format. However, if your package does not support EPS output, save your graphics file in one of the standard graphics formats—such as TIFF, PICT, GIF, etc.—rather than in an application-dependent format. For example, if you are using SuperPaint on a Macintosh, do not send files in SuperPaint format. Instead, save the file in PICT format from SuperPaint and send the PICT files to the AMS. Graphics files submitted in an application-dependent format are not likely to be used. No matter what method was used to produce the graphic, it is necessary to provide a paper copy to the AMS.

Please be sure that the version of the file submitted in electronic form is the same as the version submitted as hard copy. Authors sometimes submit an electronic file which does not exactly match the hard copy submitted. This is not acceptable.

For electronic graphics submitted as part of an electronic manuscript (see the section on types of submissions earlier in this handbook), do not include the caption in the graphic file; the caption should be typeset by  $\text{\TeX}$ .

If you scale a figure before sending it to us, remember that line weights also scale. Bear in mind that the lightest line weight which will reproduce clearly at

high resolution is 0.5pt. Do NOT specify “hairline” weight, as this will be nearly invisible at high resolution and will disappear in the printing process. If a rule line is screened, its weight should be no lighter than 1 point.

Graded line weights should increase in increments of at least 0.5pt. Increments less than this are insufficiently distinguishable at high resolution.

Screened fills should be screened not less than 15% (less will print as white) and not greater than 85% (greater will print as black).

Ideally, text included in graphics files should be font outlines rather than bitmaps, because the AMS typesets its publications on a high-resolution image-setter, not a laser printer. Text or lines in graphics which are 300dpi bitmaps (which look fine next to your laser-printed output of your article) may appear poor in quality next to the high-resolution text of AMS publications. If bitmaps of characters are part of bitmapped line art files, output will be ideal if the bitmapped characters are at 1200dpi.

**Nonelectronic graphics.** These graphics should be drawn in black ink with clean, unbroken lines on nonabsorbent paper. Whenever possible, fonts used in graphics should match those used in the text. Authors’ original graphics are used whenever possible in AMS publications.

Send the originals of photographs or computer-generated images to the AMS. A photocopy of such an image can be used to identify it. To avoid damage to photographic images, do not use paper clips or staples, and do not tape them to a sheet of paper.

For a color image (whether it is to be converted to a black and white image or is to appear in color), submit one of the following (listed in order of preference):

- glossy color photograph,
- color transparency or interneg,
- color slide.

**Color graphics.** AMS policy requires that the author pay for the cost of producing color graphics. If the author is unable to pay the cost, and the editor of the book or journal deems it mathematically essential to the manuscript, the AMS will, with permission of the Publisher, pay for one (1) page of 4-color.

Color figures should have a resolution of at least 266 pixels per inch when printed at 100%. Ideally, they should be in TIFF or EPS format (note that PostScript is not the same as Encapsulated PostScript; the latter is a subset of the former).

### Equations

Check displayed equations carefully, making sure they are broken and aligned following the guidelines in [MIT, pp. 38–41].

### Submission

**Electronic submissions.** See the chapter *How to Submit Electronic Files and Graphics*.

**Nonelectronic submissions.** Send two proof copies of your article or monograph to the appropriate journal or book series editor. Include any artwork.

**After acceptance.** Except for electronic-only journals of the AMS, all articles and monographs must have been accepted for publication by the appropriate editorial board before they are sent to the AMS. Camera-ready submissions should be sent to the Acquisitions Department.

Submissions for book monograph or proceedings volumes should be sent to the attention of either Sarah Donnelly or Christine Thivierge. All journal submissions should be sent to the attention of Christine Vendettuoli, except for AMS electronic-only journals. Submission information for these journals can be found on the Web starting from URL: <http://www.ams.org/>.



## General Checklist for Authors

All authors should refer to the following list. Information specific to the different types of publications (i.e., books and journals) is listed on the following pages.

- Authors should proofread their work before submitting it to the AMS.
- The first page of the article must contain a *descriptive title*. The *descriptive title* should be short, but informative; useless or vague phrases such as “some remarks about” or “concerning” should be avoided.
- Give the **1991 Mathematics Subject Classification** numbers representing the primary and secondary subjects of the work. A list of these numbers may be found
  - in the annual index of *Mathematical Reviews*, published with the December issue starting in 1990
  - on the Web at URL: <http://www.ams.org/msc/>
  - on the electronic service e-MATH (telnet `e-math.ams.org` or `130.44.194.100`; login and password are `e-math`)
  - in printed form from Customer Services.
- Give information on **grants** or contracts under which the research was performed, including grant number.
- An **abstract** may comprise multiple paragraphs and include displayed material if appropriate. The length of the abstract depends primarily on the length of the paper itself and on the difficulty of summarizing the material, but an upper limit of about 150 words for short papers and 300 words for long papers is suggested. An abstract is not required for book proceedings.
- For **electronic manuscripts** and **electronic-only journal submissions**, author names and titles should contain no author-defined macros.

## Information Specific to Monographs

- In **chapter titles**, the first and last words of the title and all nouns, pronouns, adjectives, adverbs, and verbs should be capitalized; articles, conjunctions, and prepositions should be lowercased except for the first and last words of the title.
- The **running heads** on the left-hand (even-numbered) pages should have the chapter title in uppercase letters. The title in running heads should be shortened only if necessary to fit on one line, leaving room for the page number. The running heads on the right-hand (odd-numbered) pages should have the main-heading title (shortened if necessary) in uppercase letters.
- The **copyright page** should include primary classification numbers using the 1991 Mathematics Subject Classification scheme, grant information, and an abstract. For translations the copyright page should include the name and city of the original publisher, the copyright year of the original publication, and the name and address of the translator.

## Information Specific to Proceedings Volumes

- In **article titles**, the first and last words of the title and all nouns, pronouns, adjectives, adverbs, and verbs should be capitalized; articles, conjunctions, and prepositions should be lowercased except for the first and last words of the title.
- The **running heads** on the left-hand (even-numbered) pages should have the name(s) of the author(s) in uppercase letters. Names in running heads should match the names as given on the first page and should be shortened only if necessary to fit on one line, leaving room for the page number. The running heads on the right-hand (odd-numbered) pages should have the article title (shortened if necessary) in uppercase letters.
- **Preliminary papers**, as well as abstracts and summaries, are not accepted for publication in AMS proceedings volumes.
- Unmarked, unnumbered **footnotes on the first page** of an article should include primary classification numbers using the 1991 Mathematics Subject Classification scheme followed by grant information.
- Academic or other **affiliations** should appear at the end of your article, after the bibliography or references. A **current address**, if different from the affiliation, should follow the affiliation on a new line with a blank line in between. An **e-mail address** should be included if available, on a new line following the current address with a blank line in between. **Note:** Line spacing is taken care of automatically by AMS style files.
- A **Consent to Publish and Copyright Agreement** is sent to the author(s) when the final paper is received at the AMS. Authors retain the right to use all or part of their own work in future publications of their own. They are, however, asked, but not required, to sign other rights over to the AMS. The form should be returned to the Production Department immediately, either signed or with a note that the author(s) will hold copyright.

## Information Specific to Journals

- In **article titles** only the first word and proper nouns should be capitalized.
- The **running heads** on the left-hand (even-numbered) pages should have the name(s) of the author(s) in uppercase letters. Names in running heads should match the names as given on the first page and should be shortened only if necessary to fit on one line, leaving room for the page number. The running heads on the right-hand (odd-numbered) pages should have the article title (shortened if necessary) in uppercase letters.
- Transactions, Proceedings, Mathematics of Computation, and Bulletin articles (except Book Reviews) must contain an **abstract**. The main purpose of the abstract is to enable readers to take in the nature and results of the article quickly. Zentralblatt publishes authors' abstracts instead of reviews, so the abstract may also appear there. The abstract should contain no text references to the bibliography unless the bibliographic reference is fully supplied. For example, [3] is meaningless to the reader once the abstract is separated from the article.
- Unmarked, unnumbered **footnotes on the first page** of an article should include primary classification numbers according to the 1991 Mathematics Subject Classification scheme followed by **grant** information. A footnote of **key words and phrases**, describing the subject matter of the article and taken from it, is optional.
- Academic or other **affiliations** should appear at the end of your work, after the bibliography or references. A **current address**, if different from the affiliation, should follow the affiliation on a new line with a blank line in between. An **e-mail address** should be included if available. **Note:** Line spacing is taken care of automatically by AMS style files.
- A **Consent to Publish and Copyright Agreement** is sent to the author(s) when the final paper is received at the AMS. Authors retain the right to use all or part of their own work in future publications of their own. They are, however, asked, but not required, to sign other rights over to the AMS. The form should be returned to the Production Department immediately, either signed or with a note that the author(s) will hold copyright.

## Camera-Ready Submissions

You should read this handbook thoroughly before preparing your camera-ready submission. You may send a few sample pages to the Production Department to check before finalizing copy. Since camera-ready submissions are printed directly from the material supplied by authors, **you are responsible for final formatting and proofreading.**

### Camera-ready electronic submissions

To encourage the use of  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\mathcal{L}\mathcal{A}\mathcal{T}\mathcal{E}\mathcal{X}$  or  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\mathcal{T}\mathcal{E}\mathcal{X}$ , the AMS has developed publication-specific author packages. These packages contain instructions and style files. By using the style files, you will shorten the time needed to publish your work and help reduce the price of the publication. You will find instructions for obtaining author packages in this handbook.

**Guidelines for paging.** Each AMS style file contains macros which set most of the paging standards. Page dimensions, heading formats, and penalties which prevent widows and orphans are just some of the specifications you will not need to worry about when using the style file. Refer to the *Instructions* for additional information.

**Graphics placement.** Graphics can be embedded in the output or white space can be left for graphics to be stripped in later. In either case, they should

- be numbered consistently throughout the paper,
- be placed at the top or bottom of the page, and
- have an in-text reference.

You should always use the predefined figure macros to include graphics (refer to the *Instructions* for specific coding instructions). These macros allow the user to either include encapsulated PostScript (EPS) graphics or specify white space for graphics to be stripped in later. Extra space surrounding the caption and the actual figure is built into the macro. Therefore, if white space is placed where a figure will be set, only the actual size of the figure should be given as a parameter.

**Make sure all graphics do not extend into the margins.**

Ideally, a figure or table should not precede its first text reference unless the graphic and its text reference appear on facing pages (an even-numbered page followed by odd-numbered page), and a figure or table must definitely appear within the same section as its first text reference. When a figure or table is an integral part of text, it may appear unnumbered in place in the middle of text.

**Embedded graphics.** There are two ways of utilizing EPS graphics with a  $\mathcal{T}\mathcal{E}\mathcal{X}$  document:

1. Calls to EPS files can be embedded within the  $\mathcal{T}\mathcal{E}\mathcal{X}$  file and automatically incorporated by  $\mathcal{T}\mathcal{E}\mathcal{X}$ .
2. Blank space of an appropriate size for each graphic can be left in the  $\mathcal{T}\mathcal{E}\mathcal{X}$  document. Graphics files can then be sent to the AMS for high-resolution typesetting and manual positioning in the typeset document.

In either case, submit a separate file for each graphic along with the  $\TeX$  document. In cases where files cannot be saved in an EPS format, you may choose to leave space in the  $\TeX$  document and submit the graphics files separately.

If you choose to submit a file with embedded references to external EPS files, incorporate the references to EPS files into the  $\TeX$  file using one of the following public-domain macro packages: `epsf.tex` (or `epsf.sty`), developed by Radical Eye Software; `psfig.tex`, version 1.9 or later; the `graphicx` package (part of the  $\LaTeX$  2 $\epsilon$  graphics distribution); or `boxedeps.tex` (or `boxedeps.sty`). The AMS does not provide these macro files to authors, as they are widely available in the  $\TeX$  community. For a list of public domain archives contact the Electronic Products and Services Department at the AMS or view the AMS  $\TeX$  Resources pages on the Web at URL: <http://www.ams.org/tex/>. Also, there are a few requirements if these macros are used:

1. DO NOT include any path names of the included PostScript files. For instance, do not say `\psfigfile=/usr/joe/book/figures/fig1.ps`. Instead remove all explicit path references, so that the above example would become `\psfigfile=fig1.ps`.
2. Include printed copies of all of the PostScript files for the graphics with the  $\TeX$  file.
3. If you are preparing a camera-ready submission and you are using `psfig.tex`, use the version which is compatible with `dvips`, rather than the `OzTeX` version of that file when you run  $\TeX$  to create the DVI or PostScript file to send to the AMS. If you use `boxedeps.tex`, when you run  $\TeX$  to create the DVI or PostScript file to send to the AMS, you must place the command `\SetRokickiEPSFSpecial` immediately after the file `boxedeps.tex` input.

### Camera-ready nonelectronic submissions

Camera-ready nonelectronic submissions must follow certain guidelines. It is particularly important that the type block measure 30 by 50.5 picas (approximately  $5 \times 8\frac{3}{8}$  inches or  $12\frac{1}{2} \times 21\frac{1}{4}$  centimeters). For proceedings articles, the first page, including title, should measure only 39 picas (approximately  $6\frac{1}{2}$  inches or  $16\frac{1}{4}$  centimeters) in length. Similarly, in a monograph, the opening page of each chapter should measure 30 by  $43\frac{1}{2}$  picas (approximately  $5 \times 7\frac{1}{4}$  inches or  $12\frac{1}{2} \times 18\frac{1}{4}$  centimeters). For all other pages, running heads should be included in the measurement of the type block and should be centered at the top of each page in small capital letters.

**Guidelines for paging.** Avoid the following situations whenever possible:

- A **widow**, which is a short line at the top of the page that ends a paragraph and is less than half the text width. Use your discretion for lines that approach half the text width. Transfer these lines to the previous page, or transfer a line from the previous page forward.
- A **centered heading** at the bottom of a page with less than 2 lines of text following it or at the top of a page with only 1 line of text preceding it. (A centered heading can appear at the top of a page. For headings that run into text, there should be at least 2 lines of text, following the heading, at the bottom of the page.)

- An **unacceptable math break** in text between pages. Page breaks for math follow the same guidelines as line breaks for math; see [MIT, pp. 36–37].

For proceedings articles, aim for an acceptable-looking last page for each article. Avoid having just one reference, the affiliation, current address, e-mail address, or “translated by” line standing alone on the page.

**Graphics placement.** Graphics can be embedded in the output or white space can be left for graphics to be stripped in later. In either case, they should

- be numbered consistently throughout the paper,
- be placed at the top or bottom of the page, and
- have an in-text reference.

If you are leaving white space for graphics that will be stripped in and you are **not** using an AMS style file, then you must leave space for graphics as follows:

- at least 1.5 picas ( $\frac{1}{4}$  inch) of space between the text and the top of the graphic (if the graphic follows text),
- exact space for the graphic,
- exactly 1 pica of space from the bottom of the graphic to its caption,
- at least 1.5 picas ( $\frac{1}{4}$  inch) of space from the caption to the text below (if text follows the graphic).

A figure or table should not precede its first text reference unless the graphic and its text reference appear on facing pages (an even-numbered page followed by odd-numbered page), and a figure or table must definitely appear within the same section as its first text reference. When a figure or table is an integral part of text, it may appear unnumbered in place in the middle of text.

**Footnotes.** A footnote must appear on the same page as its text reference. On rare occasions it will happen that a footnote will not fit in its entirety on the same page as its text reference. In this case break the footnote between pages at a line of the footnote that ends in the middle of a sentence. This will signify to the reader that the footnote continues on the next page. Please note that the footnote must at least begin on the same page as its text reference.

## T<sub>E</sub>X Resources

L<sup>A</sup>T<sub>E</sub>X and T<sub>E</sub>X (including the plain format) are available on the Internet free of charge. There are also numerous commercial T<sub>E</sub>X packages. *Making T<sub>E</sub>X Work* [NM] explains and reviews most of the popular public domain and commercial packages and includes instructions for obtaining these packages.

L<sup>A</sup>T<sub>E</sub>X is the most popular of the public domain packages designed for use with T<sub>E</sub>X, the basic T<sub>E</sub>X typesetting program. Whereas plain T<sub>E</sub>X defines most of the base macros you will need, L<sup>A</sup>T<sub>E</sub>X defines prepackaged stylistic macros. It sets up a book, article, report, and letter style, which you can then alter to your specifications. *L<sup>A</sup>T<sub>E</sub>X User's Guide & Reference Manual* [LM] is the standard instruction manual for L<sup>A</sup>T<sub>E</sub>X. The standard reference for plain T<sub>E</sub>X is *The T<sub>E</sub>Xbook* [TB]. Both can be obtained from the AMS Customer Services Department.

The AMS has several Web pages devoted to T<sub>E</sub>X information. These can be accessed at the URL: <http://www.ams.org/tex/>.

The T<sub>E</sub>X Users Group is another good resource for information on both T<sub>E</sub>X and L<sup>A</sup>T<sub>E</sub>X. They can be contacted at:

T<sub>E</sub>X Users Group  
1850 Union Street, # 1637  
San Francisco, CA 94123  
(415) 982-8449, FAX: (415) 982-8559  
[tug@tug.org](mailto:tug@tug.org)

$\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X is a collection of L<sup>A</sup>T<sub>E</sub>X extensions that make various kinds of mathematical constructions easier to produce, and take more care with certain finer details in order to yield publication-quality results. The macro package  $\mathcal{A}\mathcal{M}\mathcal{S}$ -T<sub>E</sub>X, from which  $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X inherited many of its parts, provides similar facilities in a non-L<sup>A</sup>T<sub>E</sub>X context. For both  $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X and  $\mathcal{A}\mathcal{M}\mathcal{S}$ -T<sub>E</sub>X there are companion design setup packages (variously referred to as ‘documentclass’ or ‘documentstyle’ or ‘stylesheet’ files) which enable authors writing a book or article to get largely the same visual appearance in their preliminary drafts as would be used upon final publication with the AMS.

Both  $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X and  $\mathcal{A}\mathcal{M}\mathcal{S}$ -T<sub>E</sub>X require the installation of T<sub>E</sub>X.  $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X requires the additional installation of L<sup>A</sup>T<sub>E</sub>X. (See *Author Package Requirements* section.)

$\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X and  $\mathcal{A}\mathcal{M}\mathcal{S}$ -T<sub>E</sub>X are available from the Web starting from the URL: <http://www.ams.org/>, via anonymous FTP from e-MATH, or for a minimal fee from the Customer Services Department. (See the chapter *Obtaining and Processing Author Packages from e-MATH*.) AMS distributions of  $\mathcal{A}\mathcal{M}\mathcal{S}$ -T<sub>E</sub>X 2.1,  $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X 1.2, and AMSFonts 2.2 each include a copy of the related User’s Guide. Each guide provides important information including installation procedures and coding examples. An electronic version of each of these guides is available as part of the distribution packages on e-MATH. Printed versions of each User’s Guide may be ordered free of charge from Customer Services.



## Author Package Requirements

The author packages developed by the AMS produce the style of a specific publication using a standard set of command sequences (see the lists of commands later in this handbook). The AMS strongly encourages authors to prepare their articles and monographs using the appropriate author package. By using the appropriate author package, you will help reduce the price of the publication and could shorten the time needed to publish your work.

Author packages contain sample paper(s), templates for coding topmatter, an electronic copy of this handbook, instructions for using the package, and style files that produce the style of a specific publication. Instructions for obtaining author packages are included in this handbook.

Each author package is designed to work with the most recent versions of the base software. If you use older versions of  $\text{\LaTeX}$ ,  $\text{\TeX}$ , or AMS-created macro packages, you may run into problems such as bugs which have been fixed in a later version of the software you are running.

To use an author package, you will need the current version of either  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\LaTeX}$  or  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\TeX}$ .

If you are preparing an electronic submission using  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\LaTeX}$ , you need:

- $\text{\TeX}$  and Computer Modern fonts,
- $\text{\LaTeX} 2_{\epsilon}$ ,
- $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\LaTeX}$  (including `amsart.cls`, `amsproc.cls`, and `amsbook.cls`),
- AMSFonts, and
- the appropriate publication-specific  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\LaTeX}$  author package.

**Note:** You must have  $\text{\LaTeX} 2_{\epsilon}$  (a version no earlier than December 1994) on your system in order to run  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\LaTeX}$  1.2. Current  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\LaTeX}$  author packages have been created to run only under version 1.2 or later since the release of  $\text{\LaTeX} 2_{\epsilon}$ .

If you are preparing an electronic submission using  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\TeX}$ , you need:

- $\text{\TeX}$  (including the plain format) and Computer Modern fonts,
- $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\TeX}$  (including `amsppt.sty`),
- AMSFonts, and
- the appropriate publication-specific  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\TeX}$  author package.

## Obtaining and Processing Author Packages from e-MATH

The most recent list of available author packages is on e-MATH. Author packages may be retrieved from e-MATH via the Web through the URL: <http://www.ams.org/tex/> or via the transfer method known as "FTP". In this section we give a general introduction to the FTP commands to be used for obtaining author packages. Select the author package for the specific publication from the list on the Web page. Be sure to retrieve every file from the author package you have selected.

e-MATH is a Unix environment; therefore file and directory names are case-sensitive; directory names are lowercase. The basic FTP commands you will need to know are listed below. **Note:** Some implementations of FTP function slightly differently. For example, you may have to use **quit** instead of **exit**. If you have any problems, contact the support people at your site. If you do not have support help available, send mail to [support@e-math.ams.org](mailto:support@e-math.ams.org).

FTP Commands	
<b>cd</b> (directory name)	connect to a directory on the remote host
<b>cdup</b>	connect to the parent of current directory on the remote host
<b>lcd</b> (directory name)	locally connect to a directory on your computer
<b>pwd</b>	ask for name of current directory on the remote host
<b>lpwd*</b>	ask for name of current directory on your computer
<b>dir</b>	list contents of current directory on the remote host
<b>ldir*</b>	list contents of current directory on your computer
<b>get</b> (file name)	get a single file from the remote host
<b>mget</b> (file specifications)	get multiple files from the remote host
<b>binary</b>	when you are about to transfer binary files
<b>ascii</b>	when you are about to transfer text files (most of the files on e-MATH are text files)
<b>Ctrl a</b>	shows the amount transferred
<b>Ctrl c</b>	cancel a transfer in progress
<b>exit</b>	leave FTP and return to your system
* These commands may not be valid with all versions of FTP.	

### How to log onto e-MATH

From your host system account type **ftp e-math.ams.org <return>**. When you see a message indicating that a connection has been opened, log in using the username **anonymous**. If your version of FTP is now prompting you for a **Name** or **Username**, simply type **anonymous <return>**. Otherwise, type **login anonymous**

**<return>**. You will be asked to enter a password; enter your e-mail address here and press **<return>**.

### Which files you need and how to get them

On the back cover of this handbook there is a list of publications for which author packages are available. To obtain the most up-to-date list of available packages, retrieve and read the file `/pub/author-info/READ*.ME`.

If you want to retrieve the author package for the *Contemporary Mathematics* monograph series for use with  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\mathcal{L}\mathcal{A}\mathcal{T}\mathcal{E}\mathcal{X}$ , do the following:

1. Connect to the directory by typing:  

```
cd /pub/author-info/packages/conm-m/amslatex
```

 (Use the codes on the back cover of this handbook to replace `conm-m` with the code for the specific publication you want; change `amslatex` to `amstex` if appropriate.)
2. Enter `pwd` to make sure that Step 1 was successful.
3. Enter `dir` to see how many files are in the directory. (optional)
4. Connect to the directory on your computer where the files will go, using the `lcd` command. (**Note:** The format in which you type the directory name should be the normal format in which you type it on your operating system.)
5. Enter `lpwd` to make sure that Step 4 was successful.
6. Enter `mget *.*`
7. Enter `ldir` to be sure that all the files were copied. (optional)

**Note:** If you are planning to get both  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\mathcal{L}\mathcal{A}\mathcal{T}\mathcal{E}\mathcal{X}$  and  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\mathcal{T}\mathcal{E}\mathcal{X}$  versions of author packages, you must set up separate directories on your system. There are files with similar names between the two types of packages; moving them to the same directory will cause some files to be overwritten.

To obtain the  $\mathcal{T}\mathcal{E}\mathcal{X}$  macro packages ( $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\mathcal{L}\mathcal{A}\mathcal{T}\mathcal{E}\mathcal{X}$  and  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\mathcal{T}\mathcal{E}\mathcal{X}$ ) and fonts (AMSFonTS) from e-MATH, follow the instructions in the `READ.ME` file in the directory `/pub`.

Questions concerning the above files can be sent to: `tech-support@ams.org`. Reports of problems in accessing the e-MATH system itself should be sent to: `support@e-math.ams.org`.

### How to end the FTP session and log off

To exit FTP, simply type `exit` or `quit` **<return>**.

### Electronic file installation and processing overview

The following is a general overview of what to do once you obtain your author package.

- If you use  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\mathcal{L}\mathcal{A}\mathcal{T}\mathcal{E}\mathcal{X}$ , install the style files in the directory where you have `amsart.cls`, `amsproc.cls`, and `amsbook.cls`. If you use  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-}\mathcal{T}\mathcal{E}\mathcal{X}$ , install the style files in the directory where you have `amspt.sty`.
- Print the `READ*.ME` file;  $\mathcal{T}\mathcal{E}\mathcal{X}$  and print all `*.tex` files in the package.
- If you do not know whether your submission should be an electronic manuscript or a camera-ready submission, contact the Acquisitions Department at `acquisitions@ams.org`. Once you verify this information follow the appropriate guidelines in this handbook.

- **Proofread your work carefully.**
- Submit your files following the instructions in the chapter *How to Submit Electronic Files and Graphics*.

## How to Submit Electronic Files and Graphics

For electronic-only journals, see submission instructions on the Web starting at URL: <http://www.ams.org/journals/>. For other publications, send two proof copies of the article or monograph to the appropriate journal or book series editor. You should state your intention to submit your work electronically, but the electronic version should not accompany the proof copy. Upon acceptance of the paper, the source file(s) should be sent to the Providence office (this includes the T<sub>E</sub>X ( $\mathcal{A}\mathcal{M}\mathcal{S}$ -L<sup>A</sup>T<sub>E</sub>X,  $\mathcal{A}\mathcal{M}\mathcal{S}$ -T<sub>E</sub>X) source file and any graphics files), and, if the submission is for a camera-ready series, the DVI or PostScript file.

Before sending the source file, be sure you have proofread your article or monograph carefully. The files that you send must be the EXACT files used to generate the proof copy that was accepted for publication. In order to avoid any possible production problems, before sending the files, be sure to reread the *Checklist for Electronic Submissions* chapter in this handbook. If your submission is to be camera-ready, reread the section *Guidelines for paging* and be sure that any necessary forms are sent along with your submission.

For all publications, authors are required to send in a printed copy of their paper that exactly matches the submitted file along with any graphics that will appear in the paper. For books, authors should send the printed copy to the Acquisitions Department. For journals, authors should send the printed copy to the editor of the journal. The editor will forward the accepted copy to the Providence office.

Source files may be submitted by e-mail, FTP, or on diskette. The DVI file(s) (for camera-ready submissions) and PostScript files should be submitted only by FTP or on diskette unless they are encoded properly to submit through e-mail. (DVI files are binary and PostScript files tend to be very large.)

If you created your file(s) using *Textures*, these files have two components—the document text and the DVI component. You should use DVItool to extract the DVI file. Once you have extracted the DVI file, you can FTP it to the incoming directory on e-MATH. If you are unfamiliar with this process, please send us the file on a Macintosh disk, and we will extract the DVI file for you.

### Electronic mail submissions

Files sent by electronic mail should be addressed to the Internet address [pub-submit@ams.org](mailto:pub-submit@ams.org), except for electronic-only journals. Submission information for these journals can be found on the World Wide Web starting at URL: <http://www.ams.org/journals/>.

The subject line of the message should use the publication code to identify the series or journal (see back cover for list of codes). For a monograph include the name(s) of the author(s), and for an article in a proceedings include the name(s) of the editor(s). If one file has been broken into parts because of its large size, also identify the part, “part *n* of *m*”, in the subject line. By including this information in the subject line, you will help speed up the processing of your submission.

Submissions received through e-mail will be acknowledged upon receipt by an automatic reply while your submission is reviewed. If there are any problems with

the file received, you will be notified. **Do not send DVI files by electronic mail** unless they have been appropriately encoded for this type of transmission.

### FTP submissions

Source files, DVI files, and PostScript files can be transferred over the Internet by FTP to the Internet node `e-math.ams.org` (130.44.194.100) using the following instructions.

Type `ftp e-math.ams.org <return>`. When you see a message indicating that a connection has been opened, log in using the username `anonymous`. If your version of FTP is now prompting you for a **Name** or **Username**, simply type `anonymous <return>`. Otherwise, type `login anonymous <return>`. You will be asked to enter a password; enter your e-mail address here and press `<return>`.

Once logged in, connect down to the directory "incoming". This is the only directory in the FTP area that is open to write access. Be sure to set your mode to binary before you transfer a DVI file (see sample FTP session on next page). Please use a unique filename, for example, `grey-ch1.dvi`. If the author name is a common name, please include something to make it unique, such as first initials. After the transfer is complete, you must send mail to `pub-submit@ams.org` to inform the AMS staff of the transfer. In your message tell us the name of the file(s) you transferred, the publication for which it is intended, and the name of the editor of the volume (if applicable).

### Diskette submissions

Source files, DVI files, and PostScript files can be sent to the Acquisitions Department on diskettes. Diskettes of any standard format and density appropriate for either IBM PC-compatible or Macintosh are acceptable. Diskettes should be labelled with your name, the title of your paper or monograph, and the publication for which it is intended.

If you are reusing a diskette, make sure that all irrelevant files that may remain from other work have been deleted. Time spent by the production staff in trying to identify extra files will delay processing of your paper.

A package containing a diskette should be clearly marked "Floppy disk. Do not fold or bend. Do not expose to electric motors or other magnetic fields." Mailers designed for diskette shipment are available from many sources; if you do not use a special mailer, cardboard or some other stiffener should be enclosed in the package for protection.

Files received on diskette will be acknowledged as soon as possible after they are received. If you have not received an acknowledgment within a reasonable amount of time (two weeks if you are located in North America; three weeks if in Europe, Australia, Japan, or South America; a month if you are in Eastern Europe or Asia), please inquire, writing to the same address to which you sent the diskette.

### Sample FTP and e-mail sessions

**Sample FTP session.** Below is a sample FTP session where the files `grey-ch1.tex` and `grey-ch1.dvi` are transferred to e-MATH. Computer messages and prompts are shown in *italic text*, and the commands that you will enter are shown in typewriter text. **Note:** Different implementations of FTP work slightly

differently, so the messages and prompts you see will not necessarily be identical to those listed below.

```
sol08) ftp e-math.ams.org
Connected to e-math.ams.org.
220 e-math FTP server (ULTRIX Version 4.1 Fri Jul 24 13:34:28 EDT 1992)
ready.
Name: anonymous
331 Guest login ok, send ident as password.
Password:
230 Guest login ok, access restrictions apply.
ftp> cd incoming
250 CWD command successful.
ftp> mput grey-ch1.tex
200 PORT command successful.
150 Opening data connection for grey-ch1.tex (130.44.1.8,3654).
226 Transfer complete.
local: grey-ch1.tex remote: grey-ch1.tex
717 bytes sent in 0.1 seconds (7 Kbytes/s)
ftp> binary
200 Type set to I.
ftp> mput grey-ch1.dvi
200 PORT command successful.
150 Opening data connection for grey-ch1.dvi (130.44.1.8,3671).
226 Transfer complete.
local: grey-ch1.dvi remote: grey-ch1.dvi
44544 bytes sent in 0.36 seconds (1.2e+02 Kbytes/s)
ftp> quit
221 Goodbye.
```

**Sample e-mail session.** The final step of the electronic submission process is to send e-mail notifying the AMS that the files have been transferred. The following is a sample subject line and message of an e-mail message notifying the AMS of the submission by FTP of an article to appear in a volume of the Proceedings of Symposia in Pure Mathematics.

```
Subject: PSPUM/Greene
I have submitted the following files into /incoming on e-math:
    rgreene.tex
    rgreene.dvi
for PSPUM edited by Robert Greene.
```

## Checklist for Electronic Submissions

### Camera-ready and electronic manuscripts

Some basic principles are important for effective handling of electronic submissions. Keep these principles in mind when preparing your files.

- AMS style files contain commands to identify all the important features of mathematical papers and monographs; use them, not commands you define yourself.
- Do not redefine any plain  $\text{T}_{\text{E}}\text{X}$ ,  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ ,  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ , or  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-T}_{\text{E}}\text{X}$  command.
- Put definitions for frequently occurring phrases or mathematical expressions together in the preamble section, before the start of the text of the manuscript. Once a macro is created for an expression, you should use it for every occurrence of that expression.
- Every file should be able to be processed independently; do not use “input” files, but instead include the contents of any such files in the main source file.  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  monographs are an exception to this policy when driver files are used to produce an entire volume.
- Use  $\text{T}_{\text{E}}\text{X}$  coding for special fonts (e.g., boldface or italic) only within the text of the manuscript; do not use such coding for any headings or predefined environments, e.g., theorems, etc.
- Citations in the manuscript should be coded using `\cite`.
- References should include all available information; use the abbreviations of journals and book series in [ASMR]. Abbreviations are also available on the Web.
- The research address or institutional affiliation, current address (if different), and e-mail address of each author should be included.
- Proofread your paper thoroughly and carefully.

### Electronic manuscripts only

- Do not use  $\text{T}_{\text{E}}\text{X}$  coding to control line and page breaks. Lines and pages will break differently in the published paper from the way they break in the file you submit. If you insert  $\text{T}_{\text{E}}\text{X}$  coding for line and page breaks, it will have to be removed for production. That work could offset any time saved by your keyboarding the manuscript, and any change to your  $\text{T}_{\text{E}}\text{X}$  file creates a small chance of additional errors being introduced.
- Likewise, avoid explicit horizontal and vertical spacing commands.

### Camera-ready submissions only

- Check this handbook and the *Instructions* document of your author package to be sure that you have followed the appropriate instructions.
- Check your final output for line and page breaks; make sure that all text and equations are within the margins (see *Strategy for line and page breaking* in [ALG] if you are using  $\mathcal{A}\mathcal{M}\mathcal{S}\text{-L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ ). Enter additional line or page breaks following the guidelines in the section *Guidelines for paging*.
- Submit your DVI and/or PostScript file(s) along with all related  $\text{T}_{\text{E}}\text{X}$  and encapsulated PostScript graphics files. (Contact AMS Technical Support for further details if you want to submit your entire article in PostScript format.) The  $\text{T}_{\text{E}}\text{X}$  file will be archived. Your work will be printed directly from your output file.



## Quick Start for Obtaining and Using Author Packages

The purpose of this ‘Quick Start’ is to help you get an author package and start using it as quickly as possible. To use an author package, you need to have the most recent version of  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{L}\mathcal{A}\mathcal{T}\mathcal{E}\mathcal{X}$  or  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{T}\mathcal{E}\mathcal{X}$  already installed. Author packages may be retrieved from e-MATH via the Web through the URL: <http://www.ams.org/tex/> or via the transfer method known as “FTP”. Select the author package for the specific publication from the list on the Web page. Be sure to retrieve every file from the author package you have selected.

If you will be getting more than one author package, complete Step 4 before getting another package; otherwise, files may be overwritten in Step 2. In Steps 1 through 4, you will FTP an author package from e-MATH and install it on your system. The lists of  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{L}\mathcal{A}\mathcal{T}\mathcal{E}\mathcal{X}$  and  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{T}\mathcal{E}\mathcal{X}$  commands in this Handbook help you use the package to prepare your files so the time needed to publish your work is shortened.

### STEP 1: Log into e-MATH

First, type: `ftp e-math.ams.org <return>`

When you see a message indicating that a connection has been opened, you need to log in using the username `anonymous`. If your version of FTP is now prompting you for a Name or Username, simply type `anonymous <return>`. Otherwise, type `login anonymous` and press `<return>`.

You will be asked to enter a password; enter your e-mail address here and press `<return>`.

### STEP 2: Get Author Package

1. Connect to the directory by typing:  
`cd /pub/author-info/packages/conm-m/amslatex`  
 (Use the codes on the back cover of this handbook to replace `conm-m` with the code for the specific publication you want; change `amslatex` to `amstex` if appropriate.)
2. Enter `pwd` to make sure that Step 1 was successful.
3. Enter `dir` to see how many files are in the directory. (optional)
4. Connect to the directory on your computer where the files will go, using the `lcd` command. (**Note:** The format in which you type the directory name should be the normal format in which you type it on your operating system.)
5. Enter `lpwd` to make sure that Step 4 was successful.
6. Enter `mget *.*`
7. Enter `ldir` to be sure that all the files were copied. (optional)

### STEP 3: Exit e-MATH

To exit FTP simply type `exit <return>`.

Questions concerning the above files can be sent to: `tech-support@ams.org`. Reports of problems in accessing the e-MATH system itself should be sent to: `support@e-math.ams.org`.

**STEP 4:** Install  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\LaTeX}$  style files in the directory where you have `amsart.cls`, `amsproc.cls`, and `amsbook.cls`. If you use  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\TeX}$ , install the style files in the directory where you have `amsppt.sty`.

**STEP 5:  $\text{\TeX}$  and Print**

1. Print the `READ*.ME` file.
2.  $\text{\TeX}$  and print all `*.tex` files in the package.

**STEP 6:** If you do not know whether your submission is an electronic manuscript or a camera-ready submission, contact the Acquisitions Department at `acquisitions@ams.org`. Once you obtain this information follow the appropriate guidelines in this handbook.

**STEP 7:** Read the *Checklist for Electronic Submissions* in this handbook and the *Instructions* you printed in Step 5; use the `*.top` files as templates and the `*.tex` files as examples.

**STEP 8: Coding**

- AMS style files contain commands to identify all the important features of mathematical papers and monographs; use them, not commands you define yourself. Quick reference lists of these commands are given on the following pages.
- Do not redefine any plain  $\text{\TeX}$ ,  $\text{\LaTeX}$ ,  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\LaTeX}$ , or  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\TeX}$  command.
- Put definitions for frequently occurring phrases or mathematical expressions together in the preamble section, before the start of the text of the manuscript. Once a macro is created for an expression, you should use it for every occurrence of that expression.
- Use  $\text{\TeX}$  coding for special fonts (e.g., boldface or italic) only within the text of the manuscript; do not use such coding for any headings or predefined environments, e.g., theorems, etc.

**STEP 9: Proofread** your work carefully; for camera-ready submissions make sure the printing does not run into the margins.

**STEP 10:** Read the *Checklist for Electronic Submissions* in this handbook, to be sure your files are ready to be submitted.

**STEP 11: Submit** your files following the instructions in *How to Submit Electronic Files and Graphics* in this handbook.

## List of $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{L}\mathcal{A}\mathcal{T}\mathcal{E}\mathcal{X}$ commands

Code	Comments
<code>\specialsection{}</code>	Use only if sections are grouped into parts.
<code>\section{}</code>	First-level head (sections).
<code>\subsection{}</code>	Second-level head (subsections).
<code>\subsubsection{}</code>	Third-level head (subsubsections).
<code>\begin{xca}            \end{xca}</code>	Exercises in body of text.
<code>\begin{xcb}            \end{xcb}</code>	Exercises at end of chapter (available only for monographs).
<code>\begin{figure}</code>	These four lines of code create space for a figure, print caption, and close the insert.
<code>\vspace{#in}</code>	
<code>\caption{}</code>	
<code>\end{figure}</code>	
<code>\cite{}</code>	Cite a reference.
<code>\begin{enumerate}\end{enumerate}</code>	Use for numbered lists.
<code>\begin{itemize} \end{itemize}</code>	Use for bulleted lists.
<code>\textup{}</code>	Use to get roman fences, i.e., ( ), [ ], { }, and roman punctuation, i.e., : (colon); (semicolon), (comma), '' (quotation marks) in the text of proclamations.

Theorems and similar structures are treated as environments in  $\mathcal{L}\mathcal{A}\mathcal{T}\mathcal{E}\mathcal{X}$ . Three different theorem styles are provided by  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{L}\mathcal{A}\mathcal{T}\mathcal{E}\mathcal{X}$ : **plain**, **definition**, and **remark**. By referring to these styles and using the `\newtheorem` command, an author can build a complement of theorem environments appropriate for any paper or monograph. The use of these commands is described in the  *$\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{L}\mathcal{A}\mathcal{T}\mathcal{E}\mathcal{X}$  User's Guide* [ALG]. All `\newtheorem` specifications should be included in the preamble.

The following list summarizes the types of structures which are appropriate for use with each style.

<b>plain</b>	Theorem, Lemma, Corollary, Proposition, Conjecture, Criterion, Algorithm
<b>definition</b>	Definition, Condition, Problem, Example
<b>remark</b>	Remark, Note, Notation, Claim, Summary, Acknowledgment, Case, Conclusion

## List of $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{T}\mathcal{E}\mathcal{X}$ commands

	Code	Comments
<code>\specialhead</code>	<code>\endspecialhead</code>	Use only if sections are grouped into parts.
<code>\head</code>	<code>\endhead</code>	First-level head (sections).
<code>\subhead</code>	<code>\endsubhead</code>	Second-level head (subsections).
<code>\subsubhead</code>	<code>\endsubsubhead</code>	Third-level head (subsubsections).
<code>\proclaim{ }</code>	<code>\endproclaim</code>	Theorem, Lemma, Corollary, Proposition, Conjecture, Criterion, Algorithm.
<code>\demo{ }</code>	<code>\enddemo</code>	Proof.
<code>\remark{ }</code>	<code>\endremark</code>	Remark, Note, Notation, Claim, Summary, Acknowledgment, Case, Conclusion.
<code>\definition{ }</code>	<code>\enddefinition</code>	Definition, Condition, Problem.
<code>\example{ }</code>	<code>\endexample</code>	Example.
<code>\xca{ }</code>	<code>\endxca</code>	Exercises in body of text.
<code>\xcb{ }</code>	<code>\endxcb</code>	Exercises at end of chapter (available only for monographs).
<code>\topinsert</code>		These four lines of code
<code>\vspace #in</code>		create space for a figure,
<code>\botcaption{ }</code>	<code>\endcaption</code>	print caption,
<code>\endinsert</code>		and close the insert.
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<code>\roster</code>	<code>\endroster</code>	Use for lists.
<code>\rom{ }</code>		Use to get roman fences, i.e., ( ), [ ], { }, and roman punctuation, i.e., : (colon) ; (semicolon) , (comma) ' ' (quotation marks) in the text of proclamations.

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