AMS Author Handbook

Revised December 2007

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General Instructions
for Preparing Manuscripts

Introduction

This handbook is designed to help authors who are preparing books or articles for publication or copublication by the American Mathematical Society (AMS). In recent years, computer technology has transformed publishing. The advent of electronic submissions and digitally created illustrations has made the author a full partner in the production process. To ensure that your submission is published exactly the way you intend, please carefully read over this introduction and the relevant sections of this guide.

The AMS, one of the world's largest publishers of research literature in the mathematical sciences, uses LaTeX to typeset its publications. The AMS offers TeX-related support software, such as $\mathcal{AMS}$-LaTeX and $\mathcal{AMS}$-TeX, that provides easy ways to code manuscripts containing mathematical expressions. To encourage the use of $\mathcal{AMS}$-LaTeX and $\mathcal{AMS}$-TeX, the AMS has developed publication-specific author packages. These author packages contain instructions and style files pertaining to the publication in question, as well as general graphics guidelines. Thus, authors submitting work to *Graduate Studies in Mathematics* would use a different package than those submitting to the *Journal of the American Mathematical Society*. (You will find a complete list in the section *AMS Author Packages* later in this handbook.)

Although the AMS will accept submissions in a number of forms, including non-electronic manuscripts, authors are strongly encouraged to use the author packages whenever possible. This will speed up the publishing process, and dramatically reduce the number of manuscript errors, as well as time required for proofreading. Using the author packages is the best way to make sure that the published version of your article or monograph matches the original submission.

How to use this handbook

This handbook is divided into sections based on the needs of authors of monographs (and textbooks; p. 3), proceedings volumes and collections (including conference proceedings; p. 8), and journal articles (p. 13) respectively. Carefully read the section of the handbook that pertains to you.

The sections *Author Package Recommendations* and *Obtaining and Using AMS Author Packages* provide detailed information about selecting, obtaining, and using the author packages. You will find step-by-step instructions for obtaining and using author packages in the *Quick Start for Obtaining and Using AMS Author Packages* section, followed by a list of basic commands for both LaTeX and TeX, and a list of available author packages.

Appendix A, *Submitting Accepted Electronic Files and Graphics*, details the different options for submitting accepted work to the AMS. Once you have prepared your work according to the specifications given in the first sections of this handbook, use Appendix A to select the appropriate method of submitting your files, and then follow the directions provided.

Appendix B, *Types of Submissions*, describes the four different forms submissions may take (i.e., electronic manuscript, nonelectronic manuscript, camera-ready electronic submission, and camera-ready nonelectronic submission).

Appendix C, *Preparation of Camera-Ready Submissions*, provides complete information regarding the preparation of nonelectronic submissions. Authors planning camera-ready submissions must read the relevant section thoroughly.

Appendix D contains general information about LaTeX and related subjects in the *TeX Resources* section, and addresses and other contact information for AMS departments in the *AMS Resources* section.

The handbook ends with a list of *References* containing TeX-related publications and instruction manuals and user guides for TeX-related products.

Monographs

General resources

For general advice on writing mathematics, see [**SHSD**] and [**Hi**]. 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 [**Sw**] and [**Hi**]. In your bibliography, use the abbreviations given in [**ASMR**].

Permissions

Authors are responsible for obtaining written permission to use another person's work—including text, graphics, photos, tables, 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. Permissions must be granted free of any restrictions which may limit the AMS's ability to produce, publish, promote, and distribute your monograph, in print or electronic format. Permissions that include restrictions may result in the material being omitted.

Permission is not necessary for use of work in the public domain (such as U.S. government publications or works for 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, using the AMS permission form (see www.ams.org/authors/permission-form.html). The AMS will assist an author in obtaining permissions if such assistance is requested at least *eight weeks* before the final submission is due to the AMS. A copy of the letter(s) granting permission must be sent to the AMS with the submission.

Graphics

For detailed instructions on preparing graphics, go to www.ams.org/authors and click on the *Graphics guidelines* link.

Electronic graphics. Figures may be submitted to the AMS in an electronic format. The AMS recommends that graphics be created electronically at 100% and 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 (fonts should be embedded or saved as outlines). 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, JPEG, 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 make 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 that does not exactly match the hard copy submitted. This is not acceptable, and will delay publication.

For electronic graphics submitted as part of an electronic manuscript (see the definition in Appendix B, *Types of Submissions*), do not include the caption or page number in the graphics file; the caption should be typeset by TeX.

Create graphics at 100% of the size at which they will be printed. Do not exceed the dimensions of the print area for the publication in which the figure is to appear. If you must scale a figure before sending it to us, remember that line weights also scale. Bear in mind that the thinnest line weight which will reproduce clearly at high resolution is 0.5pt at 100%. 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 gray or colored, its weight should be no thinner 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 that are bitmaps at 300dpi or less (which may 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 electronic artwork 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. Use cardboard backing in the mailing package for support and do not fold.

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. When a monograph includes color graphics, color figures should have a resolution of at least 300 pixels per inch for photographic images and 600 pixels per inch for line art graphics when printed at 100%. Ideally, they should be in EPS format; TIFF and JPEG are also acceptable. 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 [**Sw**, pp. 38–41], and that they do not exceed the width of the page for the publication in which they are to appear. For multi-line displays, use the structures defined in the `amsmath` user's guide [**ALG**] or [**Sp**].

Indexes

Ideally, indexes should be prepared by including index terms directly in the TeX file(s) for the document, to ensure correct page references. The output resulting from TeXing the file should conform to the rules of *MakeIndex*. Use of the *MakeIndex* program is described in [**MG**, chapter 11]. Output of this program is processable only by LaTeX.

If you are using $\mathcal{AMS}$-TeX, please contact AMS Technical Support for assistance.

Answers to some common questions about indexes are given in the AMS Author FAQ [**FAQ**].

Initial submission

Electronic submissions. Send two proof copies or a PDF file of your monograph to the appropriate book series editor. You should state your intention to submit your work electronically, but the electronic version of the source should not accompany the proof copy.

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

Monograph Author Checklist

☐ Do not redefine any existing LaTeX, $\mathcal{AMS}$-LaTeX, or $\mathcal{AMS}$-TeX commands.

☐ Use the template supplied in the author package for your particular publication and the appropriate document style.

☐ Use only "public" packages available from CTAN (the Comprehensive TeX Archive Network).

☐ Do not modify page sizes or other dimensions. Page sizes must conform to the specifications for the book series for which you are preparing your manuscript.

☐ Avoid the use of math in the main title. These titles are provided to on-line bibliographic services for indexing. Use of TeX math coding (especially dollar signs) will result in inaccurate bibliographic listings.

☐ For electronic manuscripts, **do not use author-defined macros** in author names, chapter titles, section headings, or references.

☐ Ordinarily, every chapter must begin on a new right-hand (odd-numbered) page.

☐ 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 section title (shortened if necessary) in uppercase letters. Uppercasing will be applied automatically if you are using AMS style files.

☐ Determine the **2000 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 1999,
  – on the Web at www.ams.org/msc/,
  – in printed form from Customer Services.

☐ Make sure that any **graphics** do not extend into the margin; the allowable width may vary depending on the publication in which they appear. Graphics must also conform to AMS graphics guidelines.

☐ Proofread your work before submitting it to the AMS. Camera-ready submissions will not be proofread at the AMS.

☐ For camera-ready submissions, read *Preparing camera-ready electronic submissions* or *Preparing camera-ready nonelectronic submissions*, whichever is appropriate.

☐ The following material must be provided for the **copyright page**, which will be prepared at the AMS: primary classification numbers according to the 2000 Mathematics Subject Classification scheme (www.ams.org/msc) and grant/contract information. For translations, include the name and city of

the original publisher, the copyright year of the original publication, and the name and address of the translator.

☐ The title and copyright pages are for information only, so that a printed copy can be associated with the correct author(s). The final copy will be prepared at the AMS using the information you have provided.

Proceedings Volumes and Collections

General resources

For general advice on writing mathematics, see [**SHSD**] and [**Hi**]. 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 [**Sw**] and [**Hi**]. In your bibliography, use the abbreviations given in [**ASMR**].

Permissions

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Graphics

For detailed instructions on preparing graphics, go to www.ams.org/authors and click on the *Graphics guidelines* link.

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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 make 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 that does not exactly match the hard copy submitted. This is not acceptable, and will delay publication.

For electronic graphics submitted as part of an electronic manuscript (see the definition in Appendix B, *Types of Submissions*), do not include the caption or page number in the graphics file; the caption should be typeset by TeX.

Create graphics at 100% of the size at which they will be printed. Do not exceed the dimensions of the print area for the publication in which the figure is to appear. If you must scale a figure before sending it to us, remember that line weights also scale. Bear in mind that the thinnest line weight which will reproduce clearly at high resolution is 0.5pt at 100%. 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 gray or colored, its weight should be no thinner 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.

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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 that are bitmaps at 300dpi or less (which may 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 electronic artwork 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. Use cardboard backing in the mailing package for support and do not fold.

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. The AMS normally does not include color graphics in its proceedings, except in special circumstances. When the Editor and Publisher mutually agree that color graphics are warranted, color figures should have a resolution of at least 300 pixels per inch for photographic images and 600 pixels per inch for line art graphics when printed at 100%. Ideally, they should be in EPS format; TIFF and

JPEG are also acceptable. 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 [**Sw**, pp. 38–41], and that they do not exceed the width of the page for the publication in which they are to appear. For multi-line displays, use the structures defined in the `amsmath` user's guide [**ALG**] or [**Sp**].

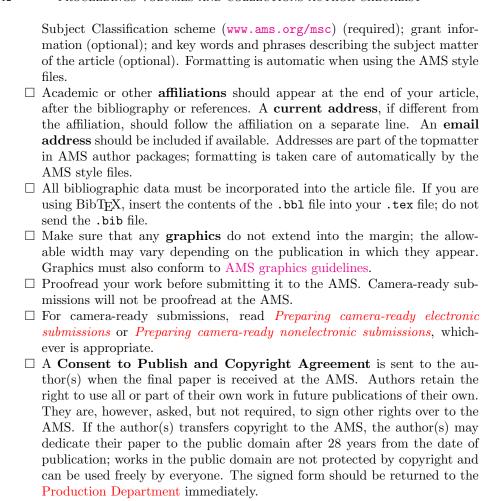## Initial submission

Electronic submissions. Send two proof copies or a PDF file of your article to the appropriate volume editor. You should state your intention to submit your work electronically, but the electronic version of the source should not accompany the proof copy.

Nonelectronic submissions. Send two proof copies of your article to the appropriate volume editor. Include any artwork.

Proceedings Volumes and Collections
Author Checklist

☐ Do not redefine any existing LaTeX, $\mathcal{AMS}$-LaTeX, or $\mathcal{AMS}$-TeX commands.

☐ **Preliminary papers**, abstracts, and summaries are not accepted for publication in AMS proceedings volumes.

☐ Use the template supplied in the author package for your particular publication and the appropriate document style.

☐ Use only "public" packages available from CTAN (the Comprehensive TeX Archive Network).

☐ Do not modify page sizes or other dimensions. Page sizes must conform to the specifications for the book series for which you are preparing your manuscript.

☐ For electronic manuscripts, **do not use author-defined macros** in author names, titles, abstracts, section headings, or references.

☐ The first page of an article must contain a *descriptive title*. This title should be short, but informative; avoid useless or vague phrases such as "some remarks about" or "concerning".

☐ 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.

☐ Avoid the use of math in the title; titles are provided to on-line bibliographic services for indexing. Use of TeX math coding (especially dollar signs) will result in inaccurate bibliographic listings.

☐ 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. Shortened forms must be provided if necessary to fit on one line, leaving room for the page number. Uppercasing will be applied automatically if you are using AMS style files.

☐ Include a brief **abstract** (optional for proceedings volumes). This 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.

☐ Determine the **2000 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 1999,
  - on the Web at www.ams.org/msc/,
  - in printed form from Customer Services.

☐ Give information on **grants** or contracts under which the research was performed, including grant number, using \thanks in an electronic manuscript.

☐ Unmarked, unnumbered **footnotes on the first page** of an article should include primary classification numbers according to the 2000 Mathematics

Subject Classification scheme (`www.ams.org/msc`) (required); grant information (optional); and key words and phrases describing the subject matter of the article (optional). Formatting is automatic when using the AMS style files.

☐ 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 separate line. An **email address** should be included if available. Addresses are part of the topmatter in AMS author packages; formatting is taken care of automatically by the AMS style files.

☐ All bibliographic data must be incorporated into the article file. If you are using BibTeX, insert the contents of the `.bbl` file into your `.tex` file; do not send the `.bib` file.

☐ Make sure that any **graphics** do not extend into the margin; the allowable width may vary depending on the publication in which they appear. Graphics must also conform to AMS graphics guidelines.

☐ Proofread your work before submitting it to the AMS. Camera-ready submissions will not be proofread at the AMS.

☐ For camera-ready submissions, read *Preparing camera-ready electronic submissions* or *Preparing camera-ready nonelectronic submissions*, whichever is appropriate.

☐ 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. If the author(s) transfers copyright to the AMS, the author(s) may dedicate their paper to the public domain after 28 years from the date of publication; works in the public domain are not protected by copyright and can be used freely by everyone. The signed form should be returned to the Production Department immediately.

Journals

General resources

For general advice on writing mathematics, see [**SHSD**] and [**Hi**]. 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 [**Sw**] and [**Hi**]. In your bibliography, use the abbreviations given in [**ASMR**].

Note: Although the *Memoirs* series is available by subscription like a journal, each *Memoir* is formatted as a camera-ready monograph. Authors should follow the checklist in the *Monographs* section, and should always use the *Memoirs* author package.

Permissions

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Required coding for on-line processing

With few exceptions, articles in AMS journals are published on line as well as in paper form. This dual publication involves conversion of some information (title, author information, abstract, and bibliography) to formats other than TeX, requiring that these elements be uniformly encoded using LaTeX conventions. For this reason, all non-$\mathcal{AMS}$-LaTeX journal submissions are converted to $\mathcal{AMS}$-LaTeX upon receipt. $\mathcal{AMS}$-TeX files can be converted automatically; files prepared using plain TeX or basic LaTeX must be either converted manually or rekeyed.

Each article must be self-contained. All macros, except for ones that are part of a publicly distributed and supported package, must be incorporated into the file. If you have a standard set of macros you use for preparing electronic files, make sure that these are incorporated in your file; include only those macros actually used in the file. Do not redefine any LaTeX, $\mathcal{AMS}$-TeX, or TeX commands. Commands

that are redefined must be manually replaced, one by one, by AMS staff; this is both time consuming and error prone.

Use proper coding to link citations and cross references for optimum functionality on the Web. Use `\cite` for all citations; this will enable linking between the citation and the bibliographic item. Use `\label` and `\ref` or `\eqref` (LaTeX only) to automatically cross-reference sections, equations, theorems and theorem-like environments, tables, figures, etc. Use only numbers, letters, and colons within these commands; other characters including spaces may fail to link properly when the `hyperref` package is used, and may have to be replaced by AMS staff.

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

Color graphics. The AMS normally does not include color graphics in the print version of its journals, except in special circumstances. (Note, however, that color graphics that appear in black and white in the print version will appear in color in the electronic version as submitted.) When the Editor and Publisher mutually agree that color graphics are warranted, color figures should have a resolution of at least 300 pixels per inch for photographic images and 600 pixels per inch for line art graphics when printed at 100%. Ideally, they should be in EPS format; TIFF and JPEG are also acceptable. Note that PostScript is not the same as Encapsulated PostScript; the latter is a subset of the former.

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Check displayed equations carefully, making sure they are broken and aligned following the guidelines in [**Sw**, pp. 38–41], and that they do not exceed the width of the page for the publication in which they are to appear. For multi-line displays, use the structures defined in the `amsmath` user's guide [**ALG**] or [**Sp**].

Initial submission

Electronic submissions. For AMS journals, see **initial submission** instructions on the Web at `www.ams.org/peer-review-submission`.

Nonelectronic submissions. Send one copy of the manuscript to: Centralized Manuscript Processing, 201 Charles Street, Providence, RI 02904-2294 USA. Clearly indicate for which journal the article is intended, as well as your contact information such as email or postal address.

Journal Author Checklist

☐ Most AMS journals are published both in print and on line. In order to expedite processing, the following restrictions are placed on journal articles:
  – Only "public" macro packages (packages available from CTAN, the Comprehensive TeX Archive Network) may be used.
  – Other macro definitions must be embedded in the preamble of the article file. Electronic files must be able to be processed independently with all macros (not entire macro files) included.
  – Macros should be defined with `\newcommand`, not with `\def`.
  – Journals do not accept camera-ready submissions.

☐ Do not redefine any existing LaTeX, $\mathcal{AMS}$-LaTeX, or $\mathcal{AMS}$-TeX commands.

☐ Use the template supplied in the author package for your particular publication and the appropriate document style.

☐ Do not modify page sizes or other dimensions. Page sizes must conform to the specifications for the journal for which you are preparing your manuscript.

☐ For electronic manuscripts, **do not use author-defined macros** in author names, titles, abstracts, section headings, or references.

☐ The first page of an article must contain a *descriptive title*. This title should be short, but informative; avoid useless or vague phrases such as "some remarks about" or "concerning".

☐ In **article titles**, only the first word and proper nouns should be capitalized. Supply a shortened form of the title if the full title is too long for the running head.

☐ Avoid the use of math in the title; titles are provided to on-line bibliographic services for indexing. Use of TeX math coding (especially dollar signs) will result in inaccurate bibliographic listings.

☐ 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. Shortened forms must be provided if necessary to fit on one line, leaving room for the page number. Uppercasing will be applied automatically if you are using AMS style files.

☐ All AMS journal 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. The 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.

☐ Determine the **2000 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 1999,
  – on the Web at www.ams.org/msc/,
  – in printed form from Customer Services.

☐ Give information on **grants** or contracts under which the research was performed, including grant number, using \thanks in an electronic manuscript.

☐ Unmarked, unnumbered **footnotes on the first page** of an article should include primary classification numbers according to the 2000 Mathematics Subject Classification scheme (www.ams.org/msc) (required); grant information (optional); and key words and phrases describing the subject matter of the article (optional). Formatting is automatic when using the AMS style files.

☐ 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 separate line. An **email address** should be included if available. Addresses are part of the topmatter in AMS author packages; formatting is taken care of automatically by the AMS style files.

☐ All bibliographic data must be incorporated into the article file. If you are using BibTeX, insert the contents of the .bbl file into your .tex file; do not send the .bib file.

☐ Make sure that any **graphics** do not extend into the margin; the allowable width may vary depending on the publication in which they appear. Graphics must also conform to AMS graphics guidelines.

☐ Proofread your work before submitting it to the AMS.

☐ 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. If the author(s) transfers copyright to the AMS, the author(s) may dedicate their paper to the public domain after 28 years from the date of publication; works in the public domain are not protected by copyright and can be used freely by everyone. The signed form should be returned to the Production Department immediately.

Author Package Recommendations

Each of the author packages developed by the AMS produces 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 cost of publication and could shorten the time needed to publish your work.

Author packages contain sample paper(s) or chapter(s), templates for coding topmatter (including some recommendations for packages), 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 the next section.

Each author package is designed to work with the most recent versions of the base software. If you use older versions of LaTeX, TeX, or AMS-created macro packages, you may run into problems such as bugs that 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 $\mathcal{AMS}$-LaTeX (preferred) or $\mathcal{AMS}$-TeX as appropriate.

If you are preparing an electronic submission using $\mathcal{AMS}$-LaTeX, you need:
- TeX and Computer Modern fonts,
- LaTeX 2_ε,
- $\mathcal{AMS}$-LaTeX (including `amsart.cls`, `amsproc.cls`, and `amsbook.cls`),
- AMSFonts, and
- the appropriate publication-specific $\mathcal{AMS}$-LaTeX author package.

You must have LaTeX 2_ε (a version no earlier than June 1995) on your system in order to run $\mathcal{AMS}$-LaTeX 2.0. Current $\mathcal{AMS}$-LaTeX author packages will run only under version 2.0 or later.

If you are preparing an electronic submission using $\mathcal{AMS}$-TeX, you need:
- TeX (including the plain format) and Computer Modern fonts,
- $\mathcal{AMS}$-TeX (including `amsppt.sty`),
- AMSFonts, and
- the appropriate publication-specific $\mathcal{AMS}$-TeX author package.

Packages for some publications are available only for $\mathcal{AMS}$-LaTeX.

Obtaining and Using AMS Author Packages

A complete and up-to-date list of available author packages is on the AMS web server at `www.ams.org/authors/bookpackages.html` for books or `www.ams.org/authors/journalpackages.html` for journals, and author packages should be retrieved via links from those pages. A list also appears in the *AMS Author Packages* list later in this handbook.

Every author package is available bundled into a `.zip` file. If you are unable to use a `.zip` file, be sure to retrieve every file for the author package you have selected.

Files you need and how to get them

In order to use any AMS author package, you must already have a TeX system installed on your computer; you will also need the AMSFonts. To process a file using $\mathcal{AMS}$-LaTeX, a recent version of LaTeX must be present; similarly, to process a file using $\mathcal{AMS}$-TeX, that must already be installed. Sources for this basic software can be found from links on the main AMS TeX Resources page: `www.ams.org/tex`.

Once these basics are taken care of, select the package for the journal or book series in which your paper or monograph is to appear. If you are not sure, select the appropriate "generic" package; all packages of each type (journal or proceedings article or monograph) use the same structuring commands, so it will be easy to substitute a different package of the same type. Some author packages are available only for $\mathcal{AMS}$-LaTeX.

Note: If you are planning to get both $\mathcal{AMS}$-LaTeX and $\mathcal{AMS}$-TeX versions of an author package, you must set up separate directories on your system. There are files with similar names in the two versions of some packages; moving them to the same directory will cause some files to be overwritten.

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 $\mathcal{AMS}$-LaTeX, install the style files in the directory where you have `amsart.cls`, `amsproc.cls`, and `amsbook.cls`. If you use $\mathcal{AMS}$-TeX, install the style files in the directory where you have `amsppt.sty`.
- Print the `README` file. Change the document style in the sample `*.tex` files in the package to use the one you have just retrieved; TeX and print the output from these files.
- If you do not know whether your book 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 section *Submitting Accepted Electronic Files and Graphics*.

Quick Start for Obtaining and Using
AMS 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 $\mathcal{AMS}$-LaTeX or $\mathcal{AMS}$-TeX already installed. Retrieve author packages from the AMS web server for books or for journals. Select the author package for the specific publication from the list provided. Every author package is available bundled into a `.zip` file. If you are unable to use a `.zip` file, be sure to retrieve every file for the author package you have selected.

If you will be getting more than one author package, complete Step 3 before getting another package; otherwise, files you have already downloaded may be overwritten in Step 2. In Steps 1 through 3, you will retrieve an author package from the AMS web server and install it on your system. The lists of $\mathcal{AMS}$-LaTeX and $\mathcal{AMS}$-TeX commands in this handbook will help you use the package to prepare your files so the time needed to publish your work is shortened.

STEP 1: Access the AMS web server

Using a web browser, link to `www.ams.org/authors/bookpackages.html` for books or to `www.ams.org/authors/journalpackages.html` for journals.

STEP 2: Get author package

1. Determine the journal or series in which your article or monograph will appear. If you are uncertain of the specific publication, select an appropriate 'generic' package.
2. If you are selecting a particular journal, follow the appropriate link to a separate page for that journal.
3. Choose $\mathcal{AMS}$-LaTeX or $\mathcal{AMS}$-TeX. (Some packages are available only for $\mathcal{AMS}$-LaTeX.)
4. AMS author packages are posted both in bundled form (a `.zip` file) and as separate files. If you choose to retrieve separate files, download every file for the author package you have selected.

STEP 3: Install $\mathcal{AMS}$-LaTeX style files in a directory comparable to the one where `amsart.cls`, `amsproc.cls`, and `amsbook.cls` are located. If you use $\mathcal{AMS}$-TeX, install the style files in a directory comparable to `amsppt.sty`.

STEP 4: TeX and Print

1. Print the `README` file and follow the instructions for tailoring the sample `*.tex` files.
2. TeX and print all `*.tex` files in the package.
3. Print the `.pdf` files unless you already have copies.

STEP 5: If you do not know whether your submission for a book is an electronic manuscript or a camera-ready submission, contact the Acquisitions Department by email at `acquisitions@ams.org`. Once you obtain this information follow the appropriate guidelines in this handbook.

STEP 6: Read the *Checklist for electronic submissions* in this handbook and the *Instructions* you printed in Step 4; use the `*.template` files as templates and the `*.tex` files as examples.

STEP 7: Coding

- AMS style files contain commands to identify all the important features of mathematical papers and monographs; use these commands, not ones you define yourself. Quick reference lists of the most important structuring commands are given on the following pages.
- Do not use `\def` to define any command. For $\mathcal{AMS}$-LaTeX, use `\newcommand`, and for $\mathcal{AMS}$-TeX, use `\define` to warn you if the command name you are using already exists. If the name already exists, do not redefine it without explicit instructions to do so; choose another name instead.
- Do not modify page sizes or other dimensions.
- Put definitions for frequently occurring 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 consistently for every occurrence of that expression.
- Use 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 8: Proofread your work carefully. For camera-ready submissions make sure the printing does not run into the margins; camera-ready submissions are not proofread at the AMS.

STEP 9: Verify the items in the *Checklist for electronic submissions* to be sure your files are ready to be submitted.

STEP 10: Submit your files following the instructions in Appendix A, *Submitting Accepted Electronic Files and Graphics*.

Basic $\mathcal{AMS}$-LaTeX Structure Commands

The commands listed here are for use in the body of your paper or book. The commands required for the top matter are presented in the template that is included in the author package.

Code	Comments
`\specialsection{}`	Use only if sections are grouped into parts.
`\section{}`	First-level head (sections).
`\section*{}` etc.	Unnumbered form.
`\subsection{}`	Second-level head (subsections).
`\subsubsection{}`	Third-level head (subsubsections).
`\begin{xca}` `\end{xca}`	Exercises in body of text.
`\begin{xcb}` `\end{xcb}`	Exercises at end of chapter (available only for monographs).
`\begin{figure}`	These five lines of code
`\includegraphics{filename}`	insert a figure reference,
`\caption{}`	print caption,
`\label{}`	provide a cross-reference,
`\end{figure}`	and close the insert.
`\cite{}`	Cite a reference.
`\begin{enumerate}` `\end{enumerate}`	Use for numbered lists.
`\begin{itemize}` `\end{itemize}`	Use for bulleted lists.
`\textup{}`	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 LaTeX. Three different theorem styles are provided by $\mathcal{AMS}$-LaTeX: `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 manual *Using the `amsthm` Package* [**ATH**]. All `\newtheorem` specifications should be included in the preamble.

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

`plain`	Theorem, Lemma, Corollary, Proposition, Conjecture, Criterion, Assertion
`definition`	Definition, Condition, Problem, Example, Exercise, Algorithm, Question, Axiom, Property, Assumption, Hypothesis
`remark`	Remark, Note, Notation, Claim, Summary, Acknowledgment, Case, Conclusion

Basic $\mathcal{AMS}$-TeX Structure Commands

The commands listed here are for use in the body of your paper or monograph. The commands required for the top matter are presented in the template that is included in the author package.

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

AMS Author Packages

The packages listed here are available from the AMS web server. A complete, up-to-date list for books is located at `www.ams.org/authors/bookpackages.html`, and for journals, at `www.ams.org/authors/journalpackages.html`. Some packages are available only for $\mathcal{A}_{\mathcal{M}}\mathcal{S}$-LaTeX.

If you are not certain to which publication you will be submitting your paper or monograph, use the appropriate generic package, `gen-*`. These generic packages are compatible with those for specific publications, allowing your manuscript to be converted with minimal intervention.

Note: If you are the editor of a proceedings volume or collection, you should obtain our Editor's Package (`www.ams.org/authors/editpkg.html`), which will assist in preparing the volume front matter.

Generic packages

`gen-j`	Generic journal
`gen-m`	Generic monograph
`gen-p`	Generic proceedings

Journal packages

Code	Full Series Name
`bull`	Bulletin (New Series) of the American Mathematical Society
`ecgd`	Conformal Geometry and Dynamics
`jag`	Journal of Algebraic Geometry
`jams`	Journal of the American Mathematical Society
`mcom`	Mathematics of Computation
`memo`	Memoirs of the American Mathematical Society [1]
`noti`	Notices of the American Mathematical Society [2]
`qam`	Quarterly of Applied Mathematics
`proc`	Proceedings of the American Mathematical Society
`ert`	Representation Theory
`spmj`	St. Petersburg Mathematical Journal
`suga`	Sugaku Expositions
`tpms`	Theory of Probability and Mathematical Statistics
`tran`	Transactions of the American Mathematical Society
`mosc`	Transactions of the Moscow Mathematical Society

Notes:

1. Although the *Memoirs* series is available by subscription like a journal, each *Memoir* is formatted as a camera-ready monograph. Authors should follow the checklist in the *Monographs* section, and should always use the *Memoirs* author package.
2. See also `www.ams.org/notices/authors.html`.

Book series packages

Code	Full Series Name
`amsip-m`	AMS/IP Studies in Applied Mathematics (Monographs)
`amsip-p`	AMS/IP Studies in Applied Mathematics (Proceedings)
`cbmath`	CBMS Issues in Mathematics Education (Proceedings)
`cbms`	CBMS Regional Conference Series in Mathematics (Monograph)
`coll`	Colloquium Publications
`cmim`	Clay Mathematics Monographs
`cmip`	Clay Mathematics Proceedings
`cmsams`	Conference Proceedings, Canadian Mathematical Society
`conm-m`	Contemporary Mathematics (Monograph)
`conm-p`	Contemporary Mathematics (Proceedings)
`crmm`	CRM Monograph Series
`crmp`	CRM Proceedings & Lecture Notes
`dimacs`	DIMACS: Series in Discrete Mathematics and Theoretical Computer Science
`fic`	Fields Institute Communications
`fim`	Fields Institute Monographs
`gsm`	Graduate Studies in Mathematics
`hmath`	History of Mathematics
`pcms`	IAS/Park City Mathematics Series
`lam`	Lectures in Applied Mathematics
`llsci`	Lectures on Mathematics in the Life Sciences
`surv`	Mathematical Surveys and Monographs
`mawrld`	Mathematical World
`psapm`	Proceedings of Symposia in Applied Mathematics
`pspum`	Proceedings of Symposia in Pure Mathematics
`smf`	SMF/AMS Texts and Monographs
`stml`	Student Mathematical Library
`mmono`	Translations of Mathematical Monographs
`trans2`	Translations – Series 2
`ulect`	University Lecture Series

APPENDIX A

Submitting Accepted
Electronic Files and Graphics

Checklist for electronic submissions

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

Camera-ready and electronic manuscripts.

☐ Use the commands provided by AMS style files to identify the important features of mathematical papers and monographs (sections, theorems, etc.), not commands you define.

☐ Do not use `\def` to define commands. With LaTeX use `\newcommand`, and with $\mathcal{A}\mathcal{M}\mathcal{S}$-TeX use `\define`. Do not redefine any plain TeX, LaTeX, $\mathcal{A}\mathcal{M}\mathcal{S}$-LaTeX, or $\mathcal{A}\mathcal{M}\mathcal{S}$-TeX command.

☐ Do not modify page sizes or other dimensions. Dimensions are publication-specific.

☐ Put definitions for frequently occurring mathematical expressions together in the preamble section, before the start of the text of the manuscript. Once a macro is created for an expression, use it for every occurrence of that expression.

☐ For a journal or proceedings article, or book chapters created using $\mathcal{A}\mathcal{M}\mathcal{S}$-TeX, include all relevant command definitions and all bibliographic items in the main source file; input only "public" macro packages from CTAN. Every file should be able to be processed independently. For an $\mathcal{A}\mathcal{M}\mathcal{S}$-LaTeX monograph, use a driver file and put the source code for each chapter in a separate file, using `\include` to pull them together into a single document.

☐ Use only standard commands in section or theorem headings; do not hard-code font changes or use commands that you have defined. Use TeX coding for special fonts (e.g., boldface or italic) only within the text of the manuscript.

☐ Use `\cite` to indicate citations in the manuscript.

☐ Include all available information for references; use the abbreviations of journals and book series from [**ASMR**], either in print or on the Web.

☐ Include the research address or institutional affiliation and current address (if different) of each author. Email addresses and URLs may be included optionally. Email addresses will appear in papers posted on line; URLs will not; both will appear in print.

☐ Check that all graphics meet specification requirements given in the *Graphics guidelines* document at www.ams.org/authors.

☐ Proofread your paper thoroughly and carefully. Author-prepared publications will not be given an editorial proofreading.

☐ Verify that submitted hard copy matches the accepted files.

Electronic manuscripts only.

☐ Do not use TeX coding to control line and page breaks. Lines and pages may break differently in the published paper from the way they break in the file you submit. If you insert TeX 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 TeX file creates a small chance of additional errors being introduced.

☐ Avoid explicit horizontal and vertical spacing commands for the same reason.

☐ Verify that graphics do not extend into the margins.

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, equations, and graphics are within the margins (see *Strategy for line and page breaking* in [**ALG**] if you are using $\mathcal{AMS}$-LaTeX). Enter additional line or page breaks following the guidelines in the section *Guidelines for paging electronic submissions*.

☐ Submit your DVI and/or PostScript or PDF file(s) along with all related TeX and Encapsulated PostScript graphics files. (Contact AMS Technical Support for further details if you want to submit your entire article in PostScript or PDF format.) The TeX file will be archived. Your work will be printed directly from your output file.

Submission guidelines

Upon acceptance of your paper or book, the source file(s) should be sent to the Providence office (this includes the TeX ($\mathcal{AMS}$-LaTeX or $\mathcal{AMS}$-TeX) source file(s) and any graphics files), and, if the submission is for a camera-ready series, the DVI, PostScript, or PDF file. Send only the files that are needed to process your submission or archive it for future reference.

Before sending the source file(s), 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 verify all items in the *Checklist for electronic submissions* section above. If your nonelectronic submission is to be camera-ready, read the section *Guidelines for paging nonelectronic submissions* (Appendix C). Be sure that any necessary forms are sent along with your submission.

For all publications, authors are required to send in a printed copy or PDF file 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 or PDF file to the Acquisitions Department. For journals, authors should send the printed copy or PDF file to the editor of the journal. The editor will forward the accepted copy to the Providence office.

If your submission consists of **multiple files**, we recommend that you bundle them using the Zip utility; this can be obtained (free) for most platforms from www.freshmeat.net. Bundling means that only one (compressed) file needs to be sent, lessening the chance of name conflicts or file corruption.

Instructions for submitting electronic monographs or articles to be published in AMS books and journals are found at www.ams.org/authors/submitelecms.html. Files that are bundled may be submitted by any acceptable method. The preferred method is via the AMS web server; other acceptable methods are email (bundled and source files only), FTP, or on CD, diskette, or flash drive.

If you created your file(s) using *Textures*, these files have two components—the document text and the DVI component. You should use the ".dvi" option from the "save as" menu to extract the DVI file. (Older versions of *Textures* may have a separate DVItool.) Once you have extracted the DVI file, you can submit it as part of a bundle by one of the methods mentioned above. If electronic transmission proves impossible, you can send the file on a CD or Macintosh disk, and we will extract the DVI file for you.

Web server submissions (preferred)

Accepted electronic manuscripts can be submitted via the Web starting at `www.ams.org/submit-book-journal`. For security and confidentiality reasons, submitting through the web server requires an AMS Web Account. Authors who do not already have an account will be given the opportunity to create one as they go through the submission process.

Electronic mail submissions

Files sent by electronic mail should be addressed to `pub-submit@ams.org`. Include them as attachments, not as part of the message.

The subject line of the message should use the publication code to identify the book series or journal (see the list of *AMS Author Packages* earler in this handbook). For a monograph include the name(s) of the author(s); for an article in a proceedings volume include the name(s) of the editor(s). By including this information in the subject line, you will help speed up the processing of your submission.

Submissions received through email 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 (e.g., bundled in a `.zip` file).

FTP submissions

Files (source, DVI, PostScript, and PDF) can be transferred over the Internet by FTP to the AMS FTP server `ftp.ams.org` using the following instructions. The AMS FTP server is a Unix environment; therefore file and directory names are case-sensitive. Directory names on the server are lowercase.

At a system prompt, type `ftp ftp.ams.org <return>`. When you see a message indicating that a connection has been opened, log in as follows. If your version of FTP is now prompting you for a `Name` or `Username`, type `anonymous <return>`. Otherwise, type `login anonymous <return>`. You will be asked to enter a password; enter your email address here and press `<return>`.

Once logged in, connect to the directory "`incoming`":

`cd incoming <return>`

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 your file(s) (see Sample FTP session below). Please use a unique filename, for example, `grey.zip`. 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).

Submissions on physical media

Files (source, DVI, PostScript, and PDF) can be sent on CD, diskette, or flash drive to the Acquisitions Department for books, or to the Production Department for journals. CDs, diskettes, or flash drives of any standard format and density appropriate for either Windows or Macintosh are acceptable. The CD, diskette, or flash drive 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 or flash drive, make sure that all irrelevant files that may remain from other work have been deleted. Extraneous files may delay processing or result in errors in the printed work.

A package containing any of these media should be clearly marked "Electronic media. Do not fold or bend. Do not expose to electric motors or other magnetic fields." Mailers designed for CD or 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 physical media 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, Asia or Africa), please inquire, writing to the same address to which you sent the CD or diskette.

Sample FTP and email sessions

Sample FTP session. In the sample FTP session shown below, the files `grey.tex`, `grey.dvi`, and `grey-fig1.eps` are transferred as a `.zip` file to the AMS FTP server. 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 the ones listed here.

home⟩ `ftp ftp.ams.org`
Connected to ftp.ams.org.
220 130.44.194.100 FTP server ready
Name: `anonymous`
331 Anonymous login ok, send your complete email address as your password.
Password:
230 Anonymous access granted, restrictions apply.
Remote system type is UNIX.
ftp⟩ `binary`
200 Type set to I
ftp⟩ `cd incoming`
250 CWD command successful.
ftp⟩ `pwd`
257 ″/incoming″ is current directory.
ftp⟩ `mput grey.zip`
200 PORT command successful.
150 Opening data connection for grey.zip

226 Transfer complete.
local: grey.zip remote: grey.zip
nnn bytes sent in mmm seconds (NNN Kbytes/s)
ftp⟩ `quit`
221 Goodbye.

Sample email session. The final step of the FTP submission process is to send email notifying the AMS that the files have been transferred. The following is a sample subject line and message of an email 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 file into /incoming on the FTP server:
    grey.zip
for PSPUM edited by Robert Greene.
This zip file contains the following three files:
    grey.tex
    grey.dvi
    grey-fig1.eps
```

APPENDIX B

Types of Submissions

The AMS divides submissions into types depending upon whether the submission is camera-ready or not and upon whether the submission is electronic or not.

The types of submissions that can be accepted depend on the specific publication. Journals do not accept camera-ready submissions. If you do not know the types of submissions accepted for a book series that you are submitting to, contact the Acquisitions Department.

To submit your electronic article or monograph, see Appendix A, *Submitting Accepted Electronic Files and Graphics*.

Submissions processed at the AMS

Submissions processed at the AMS will be proofread by the AMS editorial staff, and usually page proof is sent to authors for review before the final copy is printed or (for journal articles) posted on line (two AMS journals are published only in electronic form, with no corresponding print publication).

- An **electronic manuscript** is a TeX file prepared using $\mathcal{AMS}$-LaTeX (strongly preferred) or $\mathcal{AMS}$-TeX together with the appropriate style file, and following AMS instructions.
- A **nonelectronic manuscript** is a manuscript for which electronic files do not exist or are unusable (i.e., they have not been prepared in TeX or in a form that is easily converted to $\mathcal{AMS}$-LaTeX). A nonelectronic manuscript is keyed by the AMS as an $\mathcal{AMS}$-LaTeX file. You should type the manuscript 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 keyboarder. The pages of the manuscript should be numbered consecutively to ensure that a missing or a misplaced page will be noticed.

Camera-ready submissions

Camera-ready submissions are delivered in a form that is ready for publication. The final copy is printed by the AMS directly from what you submit. **You are responsible for final formatting and proofreading.**

- A **camera-ready electronic submission** is a DVI or suitable PostScript or PDF file you produce. Graphics must be in the form of Encapsulated Postscript (EPS) files if you submit a DVI file. Contact AMS Technical Support for further details if you want to submit your entire article in PostScript or PDF format. See the instructions for *Preparing camera-ready electronic submissions* later in this handbook and the *Instructions* manual included in the author package.
- A **camera-ready nonelectronic submission** is material that is scanned by the AMS from copy submitted by the authors and then published. See the instructions for *Preparing camera-ready nonelectronic submissions* later in this handbook.

APPENDIX C

Preparation of 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**.

Preparing camera-ready electronic submissions

To encourage the use of $\mathcal{AMS}$-LaTeX or $\mathcal{AMS}$-TeX, the AMS has developed publication-specific author packages. These packages contain instructions, style files, and a template for setting up the top matter. By using these style files, you will shorten the time needed to publish your work and help reduce the cost of publication. Author packages can be obtained via links at `www.ams.org/ams/bookpackages.html`.

If your file is prepared without using an AMS author package, or using a non-TeX program, follow the instructions for dimensions and formatting given in the section *Preparing camera-ready nonelectronic submissions*

Guidelines for paging electronic submissions. Each AMS style file contains macros that set most of the paging standards. Page dimensions, heading formats, and penalties that prevent widows and orphans are just some of the specifications you will not need to worry about when using a style file. Refer to the *Instructions* ([INL] or [INT]) for additional information.

Graphics placement. Graphics should be embedded in the output, and should
- be numbered consistently throughout the paper or monograph,
- have an in-text reference,
- be placed on the page where referenced, or as close as possible, and
- be prepared in accordance with the AMS graphics guidelines, in order to ensure that they will reproduce properly.

Make sure that no graphics extend into the margins.

Ideally, a figure or table should be placed at the top or bottom of a page, and 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). A figure or table should 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.

You should always use the predefined figure macros to include graphics (refer to the *Instructions*, [INL] or [INT], for specific coding instructions). These macros allow the user to either include Encapsulated PostScript (EPS) graphics or specify blank space for graphics to be inserted later. Extra space surrounding the caption and the actual figure is built into the macros. If blank space is used as a temporary placeholder where a figure will be set, only the actual size of the figure should be given as a parameter.

Embedded graphics. There are two ways of utilizing graphics with a TeX document:

1. Calls to EPS files can be embedded within the TeX file and automatically included by TeX (preferred).
2. Blank space of an appropriate size for each graphic can be left in the TeX document. Graphics in formats other than EPS can then be sent to the AMS for conversion to EPS files. For an author-prepared book series, the EPS files may be returned to the author for inclusion in the TeX file.

In either case, submit a separate file for each graphic along with the TeX document.

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 publicly available macro packages:

- For LaTeX, use the `graphicx` package (part of the LaTeX graphics distribution).
- For $\mathcal{AMS}$-TeX, use `epsf.tex` or `boxedeps.tex`.

The AMS does not provide these macro files to authors, as they are widely available in public TeX archives. Go to www.ctan.org/search.html to search CTAN, the Comprehensive TeX Archive Network.

There are a few requirements if these macros are used:

1. DO NOT include any path names for the included EPS files. For instance, say `\includegraphics{fig1.eps}` showing just the name of the file. Do NOT say `\includegraphics{/usr/joe/book/figures/fig1.eps}`.
2. If you use `boxedeps.tex`, when you run TeX to create the DVI or PostScript file to send to the AMS, the command `\SetRokickiEPSFSpecial` must be placed immediately after the file `boxedeps.tex` input.
3. Include printed copies of all the graphics with the printed output of the TeX file.

Preparing 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 12.5×21.3 centimeters). For proceedings articles, the first page, including title, should measure only 39 picas (approximately $6\frac{1}{2}$ inches or 16.5 centimeters) in length. Similarly, in a monograph, the opening page of each chapter should measure 30 by 43.5 picas (approximately $5 \times 7\frac{1}{4}$ inches or 12.5×18.4 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.

A printable template showing the basic requirements for book page layout is provided as a PDF file from a link on the author resources page, at http://www.ams.org/authors.

Guidelines for paging nonelectronic submissions. 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 [**Sw**, 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, email address, or "translated by" line standing alone on the page.

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

- be numbered consistently throughout the paper,
- have an in-text reference,
- be placed on the page where it is referenced, or as close as possible, and
- be prepared in accordance with the AMS graphics guidelines, in order to ensure that they will reproduce properly.

If you are leaving blank space for graphics that will be inserted later, then you must leave space for graphics as follows:

- at least 1.5 picas ($\frac{1}{4}$ inch, .7 centimeters) of space between the text and the top of the graphic (if the graphic follows text),
- exact space for the graphic,
- 1 pica ($\frac{1}{6}$ inch, .4 centimeters) of space from the bottom of the graphic to the top of its caption,
- at least 1.5 picas ($\frac{1}{4}$ inch, .7 centimeters) 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 an 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.

Submission after acceptance. Camera-ready nonelectronic submissions for books should be sent to the Acquisitions Department. Nonelectronic submissions for journals will be handled by the accepting editor.

Resources

T_EX Resources

LaTeX and TeX are available on the Web free of charge. There are also several commercial TeX implementations. AMS web pages devoted to TeX information can be accessed starting at www.ams.org/tex. The first of these pages has links to other pages that identify the various sources for the TeX program.

LaTeX is the most popular of the free front ends designed for use with TeX, the basic typesetting program. Whereas plain TeX defines basic macros, LaTeX defines stylistic packages, setting up styles for a monograph, journal article, and article in a proceedings collection, which you can then alter to your own specifications.

$\mathcal{AMS}$-LaTeX is a collection of LaTeX 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 $\mathcal{AMS}$-TeX, from which $\mathcal{AMS}$-LaTeX inherited many of its parts, provides similar facilities in a non-LaTeX context. For both $\mathcal{AMS}$-LaTeX and $\mathcal{AMS}$-TeX there are companion design setup packages (variously referred to as 'documentclass' or 'documentstyle' or 'style' files) that enable authors writing a monograph or article to get largely the same visual appearance in their preliminary drafts as in a final publication with the AMS. $\mathcal{AMS}$-LaTeX files are included in the canonical LaTeX distribution; updates can be obtained directly from the AMS web server or from CTAN.

The book *Math into LaTeX* [**Gr**] is written from the point of view of a mathematician using $\mathcal{AMS}$-LaTeX, and contains many examples. The *Guide to LaTeX*, fourth edition [**KD**], is a good general introduction to LaTeX. The original and authoritative manual for LaTeX is the *LaTeX User's Guide & Reference Manual* [**La**]. For $\mathcal{AMS}$-TeX the complete reference is *The Joy of TeX* [**Sp**]. And for plain TeX, the original reference is *The TeXbook* [**Kn**].

Both $\mathcal{AMS}$-LaTeX and $\mathcal{AMS}$-TeX require the installation of TeX. $\mathcal{AMS}$-LaTeX requires the additional installation of LaTeX. (See the section *Author Package Recommendations*.)

$\mathcal{AMS}$-LaTeX and $\mathcal{AMS}$-TeX are available from the AMS web server starting from www.ams.org/tex/. Distributions of $\mathcal{AMS}$-TeX, $\mathcal{AMS}$-LaTeX, and AMSFonts each include a copy of the relevant User's Guide and related documentation. 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 the AMS web server.

Another source of information on TeX and LaTeX is the TeX Users Group (TUG). They can be contacted at:

TeX Users Group
1466 NW Naito Parkway, Suite 3141
Portland, OR 97209-2820
(503) 223-9994, FAX: (206) 203-3960
office@tug.org

TUG also distributes the TeX Live collection, which includes ready-to-run implementations of TeX for Windows and Unix platforms, as well as LaTeX, $\mathcal{AMS}$-TeX, and an extensive selection of packages, all freeware.

AMS Resources

All written correspondence should be sent to the appropriate department at the American Mathematical Society:

201 Charles Street
Providence, RI 02904-2294 USA

or by FAX to 401-331-3842.

Questions concerning difficulties in preparing or submitting an $\mathcal{AMS}$-LaTeX or $\mathcal{AMS}$-TeX electronic submission after it has been accepted for publication by the appropriate editorial board should be directed to AMS Technical Support at:

Publications Technical Group
Phone: 800-321-4267, ext. 4080   or   401-455-4080
Email: tech-support@ams.org

For journals, see submission instructions on the Web starting from

www.ams.org/authors

For books, questions concerning what you need to prepare (camera-ready or electronic manuscript) should be directed to:

Acquisitions Department
Phone: 800-321-4267, ext. 4051   or   401-455-4051
Email: acquisitions@ams.org

Consent to Publish and Copyright Agreements should be returned to:

Production Department
Email: production@ams.org
FAX: 401-331-3842

Problems in accessing the web server should be reported to:

Email: webmaster@ams.org

Printed copies of the 2000 Mathematics Subject Classification can be obtained from:

Customer Services
Phone: 800-321-4267   or   401-455-4000
Email: cust-serv@ams.org

References

All documentation for AMS TEX-related products is available in PDF form from the AMS web server as indicated below. If you are reading this handbook on-line, the links for each item should be "live".

[AFG]   *User's Guide to AMSFonts*, version 2.2d, Amer. Math. Soc., Providence, RI, 2002. Link at www.ams.org/tex/amsfonts.html

[ALG]   *User's Guide for the amsmath Package*, version 2.0, Amer. Math. Soc., Providence, RI, 2002. Link at www.ams.org/tex/amslatex.html

[ASMR] *Abbreviations of names of serials [reviewed in Mathematical Reviews]*, Amer. Math. Soc., Providence, RI. www.ams.org/msnhtml/serials.pdf

[ATG]   *User's Guide to AMS-TEX*, version 2.2, Amer. Math. Soc., Providence, RI, 2001. Link at www.ams.org/tex/amstex.html

[ATH]   *Using the amsthm Package*, version 2.20, Amer. Math. Soc., Providence, RI, 2004. Link at www.ams.org/tex/amslatex.html

[FAQ]   *Frequently Asked Questions for AMS Authors*, www.ams.org/authors/author-faq.html.

[INL]   *Instructions for Preparation of Papers and Monographs*: *AMS-LATEX*, version 2.20, Amer. Math. Soc., Providence, RI, 2004. Link at www.ams.org/tex/amslatex.html

[INT]   *Instructions for Preparation of Papers and Monographs*: *AMS-TEX*, version 2.2b, Amer. Math. Soc., Providence, RI, 2002. Link at www.ams.org/tex/amstex.html

An extensive, up-to-date list of TEX-related publications (both in print and electronic) appears on the web page www.ams.org/tex/publications.html with links to sources where these publications can be obtained.

[Gr]   George Grätzer, *More Math into LATEX*, fourth ed., Springer, New York, 2007.

[Hi]   Nicholas J. Higham, *Handbook of Writing for the Mathematical Sciences*, second ed., SIAM, Philadelphia, PA, 1998.

[KD]   Helmut Kopka and Patrick W. Daly, *Guide to LATEX*, fourth ed., Addison-Wesley, Boston, 2004.

[Kn]   Donald E. Knuth, *The TEXbook*, Addison-Wesley, Reading, MA, 1984.

[La]   Leslie Lamport, *LATEX: A document preparation system*, second ed., Addison-Wesley, Reading, MA, 1994.

[MG]   Frank Mittelbach, Michel Goossens, et al., *The LATEX companion*, second ed., Addison-Wesley, Reading, MA, 2004.

[SHSD] Norman E. Steenrod, Paul R. Halmos, Menahem M. Schiffer, and Jean A. Dieudonné, *How to write mathematics*, 6th printing (2000), Amer. Math. Soc., Providence, RI, 1973, reprinted with corrections 1981.

[Sp]   M. D. Spivak, *The Joy of TEX*, second revised ed., Amer. Math. Soc., Providence, RI, 1990.

[Sw]   Ellen E. Swanson, *Mathematics into type*, updated ed., Amer. Math. Soc., Providence, RI, 1999.