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¹The printed version of this document contains sample papers and related source code for journals, proceedings, and monographs. The electronic version of these instructions does not include sample papers.

INSTRUCTIONS FOR PREPARATION OF PAPERS AND MONOGRAPHS: $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{T}\mathcal{E}\mathcal{X}$

August 1997

1. INTRODUCTION

These are instructions for preparing articles and books, using $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{T}\mathcal{E}\mathcal{X}$ for publication with the American Mathematical Society (AMS). The instructions will help you use the $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{T}\mathcal{E}\mathcal{X}$ version 2.1 preprint style files, which will provide output that matches AMS type specifications.

The AMS produces three major types of publications, journals (both print and electronic-only), proceedings volumes, and monographs. Each style file is based on `amsppt.sty` with special definitions to set up one of the following basic style formats.

- (1) `gen-j` is for journals
- (2) `gen-p` is for book proceedings
- (3) `gen-m` is for book monographs

These documentstyles can be used for the initial stages of document preparation. When the AMS publication in which a document is to appear becomes known, a publication-specific documentstyle should be substituted for the generic documentstyle. For example, for a submission to the *Contemporary Mathematics* proceedings series, you need to use the `conm-p` style file. Each specific style file is based on one of the three preprint styles.

You should read the *AMS Author Handbook* [AH]. It contains guidelines for preparing and submitting electronic manuscripts and camera-ready submissions. An electronic version of the *AMS Author Handbook* is included in each AMS author package. Printed copies are available through the AMS Customer Services Department free of charge.

Each author package contains an electronic version of these instructions, style files, sample files to be $\mathcal{T}\mathcal{E}\mathcal{X}$ ed under the specific style, a `READ*.ME` file which contains information about each of the files in the package, and the *AMS Author Handbook* [AH].

The instructions that follow address preparation for both electronic manuscripts and camera-ready electronic submissions (see the *AMS Author Handbook* for definitions).

It is assumed that the reader is familiar with $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{T}\mathcal{E}\mathcal{X}$ and has access to the items listed in the reference section, especially *The Joy of $\mathcal{T}\mathcal{E}\mathcal{X}$* [Joy] and the $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{T}\mathcal{E}\mathcal{X}$ Version 2.1 User's Guide [ATG].

2. GENERAL GUIDELINES

Authors should refer to the *Checklist for Electronic Submissions* section of the *AMS Author Handbook* before preparing their electronic submission. The checklist

contains information that is crucial to creating a submission that the AMS will be able to process. If a submission cannot be processed at the AMS, staff will notify the author that a corrected submission is needed. Authors of electronic manuscripts may have the option of having the paper rekeyboarded at the AMS if they do not wish to correct unusable files. Authors of camera-ready material will need to submit new DVI (and/or PostScript files) and TeX source files.

Starting a new AMS-TeX article.

Individual articles are generally made up of the following:

- (1) `\documentstyle`
- (2) preamble (where extra definitions might go)
- (3) `\topmatter...\endtopmatter`
- (4) `\document`
- (5) article body
- (6) `\enddocument`

3. TOP MATTER

The top matter associated with a paper includes information that would appear in a bibliographic reference to the paper, plus additional information about the author(s), subject classifications, key words, and acknowledgments of support.

Summary of tags and elements. The list in Table 1 includes all the top matter tags associated with the book proceedings and journal styles. Not every tag is necessary for each paper. Table 1 shows which tags are necessary and which are optional. Requirements for monographs are somewhat different and are described later. Subsequent examples will refer to either the *Contemporary Mathematics* monograph or proceedings series (`conm-m` or `conm-p`). The publication code (e.g., `conm-p`) will vary depending on which publication you are submitting to.

The style of the typeset output is controlled by the preprint style. Some of the top matter elements have a `\nofrills` option, to permit you to change the preprint style's default values. For example, the tag `\keywords` will print the phrase "*Key words and phrases.*" just before the key words that you input. You would use the `\nofrills` option if you do not want the phrase to precede the key words or if you want a different phrase.

Note that nearly all the top matter tags are paired, requiring both a beginning and an ending tag. (The few exceptions are associated more with formatting than with content.) If the `\endtopmatter` tag is omitted, none of the top matter material will print.

Whether or not a particular tag is required and whether the `\nofrills` option is available are indicated in Table 1.

Every file must begin with the statement `\input amstex`. This must be followed by an appropriate `\documentstyle` line (e.g., `\documentstyle{conm-p}`).

The preamble. The area between the `\documentstyle` line and the `\topmatter` line is referred to as the "preamble". If you define any new control sequences in the paper, place the definitions in the preamble. Similarly, instructions to access fonts that are not already loaded in AMS-TeX, such as bold symbols (see [ATG]),

TABLE 1

<code>\input amstex</code>			
<code>\documentstyle{conm-p}</code>			
(preamble commands, such as <code>\define</code> , <code>\pageno</code> , <code>\loadbold</code> , etc.)			
		Required by	Nofrills
	Journals	Books	Option?
<code>\topmatter</code>	yes	yes	—
<code>\title... \endtitle</code>	yes	yes	no
<code>\rightheadtext{...}</code>	no	no	no
<code>\author... \endauthor</code>	yes	yes	no
<code>\leftheadtext{...}</code>	no	no	no
<code>\address... \endaddress</code>	yes	yes	no
<code>\curraddr... \endcurraddr</code>	no	no	no
<code>\email... \endemail</code>	no	no	no
<code>\dedicatory... \enddedicatory</code>	no	no	no
<code>\date... \enddate</code>	— ¹	—	—
<code>\thanks... \endthanks</code>	no	no	no
<code>\keywords... \endkeywords</code>	no	no	yes
<code>\subclass... \endsubclass</code>	yes	yes	yes
<code>\abstract... \endabstract</code>	yes ²	no	yes
<code>\endtopmatter</code>	yes	yes	—
<code>\document</code>	yes	yes	—

¹ If this is necessary, it will be filled in by the AMS staff.

² For the *Journal of the American Mathematical Society*, abstracts are optional.

belong here. Placing these general instructions at the very beginning of a paper will make them available throughout the entire paper. In addition, this placement will also make it easier for the production staff to find and check them for compatibility when the paper is combined with others to produce the complete publication.

When defining new control sequences, always use `\define`; this will let you know if the name you have chosen has already been used. Do not redefine any plain $\text{T}_{\text{E}}\text{X}$ or $\mathcal{A}\mathcal{M}\mathcal{S}\text{-T}_{\text{E}}\text{X}$ command, as this could cause problems in AMS production. New definitions may be used to provide shorthand forms for mathematical expressions that are used frequently. Do not use new definitions for text. Use commands and environments provided by the AMS documentstyles whenever applicable—for example, you should use the AMS `\demo` environment for proofs rather than define your own alternative.

Title. In article or chapter titles for books, 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. For journal articles, only the first word and proper nouns should be capitalized. This is true even if the publication in which the paper appears has another style; the style for the particular publication will be generated automatically when the paper is processed at the AMS. A multiline title may be left for $\text{T}_{\text{E}}\text{X}$

to break, or a desired break may be indicated by `\\`.

Unless the title is very short, provide a form of the title suitable for use in running heads using the tag `\rightheadtext{...}`. Do not use author-defined macros in the title.

Author information. Enter the name(s) of the author(s) in caps and lowercase using the tag `\author`. The style for the particular publication will be provided automatically. If the information is more than one line long, indicate a line break with `\\`.

If the author name(s) cannot fit in the space available for the running head, enter a shortened form using the tag `\leftheadtext{...}`. Acceptable shortened forms use initials for all but the surname(s) or substitute “et al.” for all names after the first if there are more than two authors.

For each author you should provide one or more addresses. The address where the research was carried out should be tagged as `\address ... \endaddress`. If the current address is different from the research address, the current address should be given next, tagged as `\curraddr ... \endcurraddr`. Following these addresses, you should give an address for electronic mail if one exists, using `\email ... \endemail`. Regular, current, and e-mail addresses must be grouped in that order and by author; a current address or an e-mail address that is not preceded by an ordinary `\address` will not print.

Note that no abbreviations are to be used in addresses. Complete addresses for each author are to be entered in the order that names appear on the title page. Addresses are considered part of the top matter, but in AMS publications they are ordinarily printed at the end of the paper following the bibliography. Suitable labels will indicate the current and e-mail addresses, typically *Current address:* and *E-mail address:*, respectively.

Dedication. Use the tag `\dedicatory` for such things as “Dedicated to Professor X on the occasion of his eightieth birthday.” If the dedication is longer than one line, you may indicate a break with `\\`.

Acknowledgments of support and other first-page footnotes. `\thanks` is provided for acknowledgments of grants and other kinds of support for an author’s research or for other general information not covered by one of the predefined tags such as `\keywords` or `\subclass`. Like `\address`, `\thanks` can appear more than once in the top matter. Each occurrence will be printed as an unnumbered footnote at the bottom of the first page of the article.

Subject information. Subject classifications and key words, like acknowledgments, are part of the top matter and appear as footnotes at the bottom of the first page.

Subject classifications may be primary (the major topic(s) of the paper) or secondary (subject areas covered by ancillary results, motivation or origin of problems discussed, intended or potential field of application, or other significant aspects worthy of notice). At least one primary subject classification is **required**; additional primaries and secondaries are optional.

These classifications are entered as

```
\subclass Primary {primary classifications};
```

`Secondary` ⟨secondary classifications⟩ `\endsubjclass`

To determine the classifications, use the 1991 Mathematics Subject Classification scheme that appears in annual indexes of *Mathematical Reviews* beginning in 1990. These numbers may also be found 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`), or in printed form from Customer Services. Please use the full number; the two-digit code from the Contents of MR is **not** sufficient.

Key words are not required but may be provided if desired. They should be tagged as `\keywords ... \endkeywords`.

Abstract. The abstract is input with `\abstract... \endabstract`. It 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; an upper limit of about 150 words for short papers and 300 words for long papers is suggested. Do not use author-defined macros in the abstract.

4. DOCUMENT BODY

Headings. Four levels of headings are provided to permit logical sectioning of a manuscript. These headings are applicable to individual articles and to chapters of a monograph. (Headings specific to monographs are listed under *Monograph formatting*).

```
\specialhead... \endspecialhead
\head... \endhead
\subhead... \endsubhead
\subsubhead... \endsubsubhead
```

`\specialhead` is for long articles that need extra divisions (e.g., parts) at a level above the `\head` level.

Explicit line breaks are obtained by `\\` in a `\head` or a `\specialhead`, but for `\subhead` and `\subsubhead`, which are part of their paragraph, just use `\linebreak` as you would in normal paragraphed text. Linebreaks should only be used in camera-ready submissions. Do not leave a blank line after any heading. If you prefer the appearance of a blank line (so that the source file is easier to read), a comment line (containing only a `%`) is a good substitute.

Mathematical text. For instructions on preparing mathematical text, refer to [Joy].

Care should be taken to use math mode for *all* mathematical expressions, no matter how short or insignificant they are. For example, in the phrase “a group of class 2”, the “2” should be treated as mathematical text and placed between dollar signs: $\$2\$$. One reason for this is that numerals should always be roman in mathematical expressions, whereas in ordinary text environments \TeX sets them in the style of the surrounding text; see also the *Roman type* section.

Lists. Lists are produced by `\roster... \endroster`, with the individual items tagged by `\item`. Most details of input are given in [Joy, Chapter 19, *Roster*]. In addition to what is described there, the amount of indentation can be adjusted to accommodate wide item numbers. Just before beginning the `\roster`, type, for example, `\widestnumber\item{(viii)}`. This adjustment is temporary; the default will be reinstated by `\endroster`.

Theorems, lemmas, and other proclamations. There are several varieties of proclamations and related environments. All have the same generic form.

```
\<tag>{<heading text>}
  <general text>
\end<tag>
```

The following list gives the specific tags, along with the types of heading text for which each is to be used.

<code>\proclaim ... \endproclaim</code>	Theorem, Lemma, Corollary, Proposition, Conjecture, Criterion, Algorithm
<code>\demo ... \enddemo</code>	Proof
<code>\remark ... \endremark</code>	Remark, Note, Notation, Claim, Summary, Acknowledgment, Case, Conclusion
<code>\definition ... \enddefinition</code>	Definition, Condition, Problem
<code>\example ... \endexample</code>	Example

Note that the beginnings and ends of all proclamations and other environments should be marked in the file. The `\proclaimtext` will be set in italic type. The text for all other classes of proclamations will be roman. In the absence of a matching `\endproclaim`, italic type would continue; for this reason, the tags for all classes of proclamations include a check for and a report of a missing `\end...`

You may insert a “Q.E.D.” symbol at the end of a proof with `\qed`. If the proof ends with a roster or a display, care should be taken to place the `\qed` before the `\endroster` or the final `$$` to make sure that it appears on the last line of the proof instead of on a line by itself.

Punctuation and spacing are provided automatically for the heading text. If something different is required, `\nofrills` can be used with any of these tags.

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

Roman type. Numbers, punctuation, (parentheses), [brackets], {braces}, and symbols used as labels should always be set in roman type. This is true even within the statement of a theorem, which is usually set in italic type.

Be careful to distinguish between roman elements that are mathematical in nature (e.g., “a group of class 2”), and those that are part of the text (e.g., a label or a year). Mathematical expressions are, as usual, enclosed within dollar signs `$. . . $`; roman text elements should be coded as `\rom{. . . }` in nonroman environments such as theorems.

Abbreviated forms of mathematical terms are also usually set in roman type to distinguish them from mathematical variables or constants. Use the control sequences for common mathematical functions and operators like `\log` and `\lim` or use `\operatorname` to add additional operator names (see [Joy, Chapter 14]).

The style of reference citations, though publication dependent, is usually roman. In order to ensure consistency, always use `\cite` when citing a reference. Although the reference identifier is roman, it may be set automatically in bold in some publications, so you will need to set any additional information in roman type, as illustrated: `\cite{Joy\rm, Chapter 14}`

Exercises setup. Exercises are produced using the `\xca` and `\xcb` tags. `\xca` is available for all publications and is used for exercises that occur within a section. `\xcb` is available only for monographs and is used for exercises that occur at the end of a chapter.

5. GRAPHICS

Throughout this section artwork, figures, halftones, tables, etc., are all referenced using the general term *graphics*, though in some cases a specific topic, such as tables, may be described separately.

Figures and tables are usually handled as floating inserts. Such items are often so large that fitting them into the document at the point of reference may cause problems with paging. Placing such items into a floating insert allows them to be repositioned automatically by `TEX` as required for good pagination.

A floating insert generally contains one of three possibilities: blank space for an external graphic to be inserted by hand after `TEX` has run, `TEX` code that produces an object such as a table or commutative diagram (see *Tables and other inserts with T_EX code*), or a command to incorporate an item produced by another application (most often an Encapsulated PostScript (EPS) file produced by a graphics utility) (see *Embedded graphics*).

Graphics placement. Graphics should

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

A figure or table should not precede its first text reference unless they both appear on the same page spread, 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.

To specify that an insert is to go at the top of a page, use the control sequence `\topinsert`. If an insert does not fit on the page where specified, `TEX` will automatically shift it to the top of the next page. There are no macros available to set a floating insert at the bottom of a page; but in preparing submissions for a camera-ready series, you can force a `\midinsert` to the bottom if necessary. (See the examples in the *Captions* section below.) When submitting camera-ready DVI files, be careful to properly position figures using the guidelines described above. For electronic manuscripts the final placement of inserts will be determined by the AMS editorial staff on the basis of the most appropriate page layout.

Captions. Floating inserts usually have captions, positioned above a table and below a figure. The following is the general structure used to specify a figure insert with a caption at the bottom:

```

\topinsert
\vspace{<dimen>} or <optional code for the insertion body>
\captionwidth{<dimen>} (optional)
\botcaption{<caption label>}
  <optional caption text>
\endcaption
\endinsert

```

The following is the general structure for a table insert with a caption at the top:

```

\topinsert
\captionwidth{<dimen>} (optional)
\topcaption{<caption label>}
  <optional caption text>
\endcaption
\vspace{<dimen>} or <optional code for the insertion body>
\endinsert

```

When preparing submissions for a camera-ready publication, use the general structure for an insert at the bottom of a page as shown below. Measure the height of the figure and caption, allowing at least $1\frac{1}{2}$ pica of white space above the figure. Once this has been calculated, determine where the text should break to allow for the figure and caption to fit.

```

text text text.
\midinsert
\vspace{<dimen>} or <optional code for the insertion body>
\captionwidth{<dimen>} (optional)
\botcaption{<caption label>}
  <optional caption text>
\endcaption
\endinsert
\eject

```

Use the `\vspace{<dimen>}` option within the `insert` to leave blank space for a graphic to be pasted into place. If a `<dimen>` is specified, its value should be the exact height of the object to be pasted in. Extra space around the object and the caption will depend on the document style and will be provided automatically. The `\captionwidth{<dimen>}` option may be used to override the default caption width specified by the document style.

The `<caption label>` is something like “Figure 1” or “Table 2a”. Do not type any final punctuation; it will be provided.

The `<optional caption text>` is any descriptive text that may be desired. Even if there is no text, the `\endcaption` tag must be present.

Tables and other inserts with \TeX code. If you choose to include the \TeX code for a figure, table, or other captioned graphic in the input, be sure to omit the `\vspace{\dimen}` line and type the code for the insertion body, as indicated above. The size will be calculated automatically, and the caption will be set in the appropriate location above or below the object.

There are no special macros to support the creation of tables in $\mathcal{A}\mathcal{M}\mathcal{S}$ - \TeX . Table macro packages, which are available from other sources, can be used; but tables prepared in this way should be placed in a separate file and processed separately. In the case of a camera-ready submission, electronic files for separately processed tables can be sent to the AMS for output on a typesetter; this is encouraged, as it will ensure output of high quality equivalent to that of the article or monograph. (Remember that DVI files, like other binary files, cannot be sent via ordinary electronic mail but should be sent via FTP.)

Electronic graphics. Graphics may also 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.

Note: 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 after scaling. 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 after scaling.

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 imagesetter, 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):

- (1) glossy color photograph,
- (2) color transparency or interneg,
- (3) 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 the 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).

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

- (1) Calls to EPS files can be embedded within the T_EX file and automatically incorporated by T_EX.
- (2) Blank space of an appropriate size for each graphic can be left in the T_EX 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 T_EX document. In cases where files cannot be saved in an EPS format, you may choose to leave space in the T_EX document and submit the graphics files separately.

If you choose to submit a file with embedded references to external EPS files, incorporate the EPS files into the T_EX 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; or `boxedeps.tex` (or `boxedeps.sty`). The AMS does not provide these macro files to authors, as they are widely available in the T_EX community. 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 T_EX file.
- (3) If you are submitting to a camera-ready publication and you are using `psfig.tex`, use the version which is compatible with `dvips`, rather than the `OzTEX` version of that file. If you use `boxedeps.tex`, when you run T_EX 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.

6. BIBLIOGRAPHIC REFERENCES

The references section of a paper begins with `\Refs` and ends with `\endRefs`. `\Refs` sets the head for the references, switches size of type, and makes other changes behind the scenes; `\endRefs` restores the body style. This is convenient in documents in which small bibliography listings are scattered throughout, as in some survey papers.

In a monograph the bibliography forms a separate chapter. Enter the chapter title in the manner described in the *Monograph formatting* section. After the top matter, enter the line `\Refs\nofrills{}` to set up the proper references format.

Items in the bibliography are usually ordered alphabetically by author. They may be numbered consecutively or labeled with some other “key”.

A complete description of how to key references appears in [Joy].

7. MONOGRAPH FORMATTING

A monograph usually consists of multiple chapters. Several features are available for monographs that will set your output as a chapter rather than as an individual paper.

Each chapter must be prepared as a separate document in a separate file. These files should be given meaningful names (such as `grey-ch1.tex`), so that when they are transmitted to the AMS, there will be no question about which file represents which chapter. If the author name is a common name, please include something to make it unique, such as first initials.

Information that identifies the author(s), the subject matter of the monograph, acknowledgments of support, and so forth, will appear in the front matter of the book. Place this information in the title page file and use the tags associated with the top matter of an article. (See the *Top matter* section.)

A typical monograph chapter would begin like this:

```
\input amstex
\documentstyle{conm-m}
\topmatter
\title\chapter{1} Matrix Algebras\endtitle
\endtopmatter
```

If the monograph is divided into parts, and the chapter begins a part, the part title is included with the chapter, by a line like this just before the chapter title:

```
\topmatter
\part 1\Theory\endpart
\title\chapter{1} Matrix Algebras\endtitle
\endtopmatter
```

Chapter titles. There are three common variations of the chapter title, of which the form shown above with a chapter number is most common. Here the number that follows `\chapter` is converted automatically to roman numerals and the word “Chapter” is added.

The second variation is a chapter title in which some other heading, such as “Appendix”, replaces the word “Chapter”. In such cases `\nofrills` is used.

```

\topmatter
\title\chapter\nofrills{APPENDIX B} Poisson Integral\endtitle
\endtopmatter

```

The replacement text given with `\chapter` will appear exactly as typed.

The third variation is used for an element such as a preface or introduction, which has no pretitle text at all. For this, omit the `\chapter` command.

```

\topmatter
\title Preface\endtitle
\endtopmatter

```

Table of contents. In monographs the table of contents should be a separate chapter. Start by typing the title “Contents” as for a preface or introduction, and then use the `\toc... \endtoc` structure as the body of the document (rather than putting it in the top matter, as you would for a journal article).

```

\topmatter
\title Contents\endtitle
\endtopmatter

\document
\toc
\title Preface\page{vii}\endtitle
\ptitle\part{1} Theory\endptitle
\title\chapter{1} Matrix Algebras\page{1}\endtitle
\head{} Continuous complex-valued functions\page{1}\endhead
\subhead{} Examples\page{4}\endsubhead
...
\title Appendix B. Poisson Integral \page{297}\endtitle
\title Bibliography\page{307}\endtitle
\endtoc
\enddocument

```

For the table of contents, chapter titles are typed in a form similar, but not identical, to that used for the title at the beginning of a chapter. In particular, the second variation (the one for which `\nofrills` was used) is typed without a `\chapter` tag; instead, put a period after the text that appeared as an argument to `\chapter`. The other two variations are typed the same way for both chapter titles and tables of contents.

To put page numbers in the table of contents, use `\page` as shown just before the ending of an element. This option is available for all levels of headings.

If a `\head`, `\subhead`, or `\subsubhead` entry does not have a section number, it is necessary to follow that tag with an empty group (`{}`) followed by a space. The contents macros look for the space in order to align the section titles properly.

To indent section titles to the width of the widest section number, specify `\widestnumber{<the widest number>}` immediately after the `\toc` line. For example, `\widestnumber{10.}` was specified for the contents of these *Instructions*.

Monograph running heads. The chapter title is used for the left running head and the text of section headings (from `\head`) appears as the right running head. It is not uncommon for the text of a heading to be too long to fit in the running head width; in such a case use `\rightheadtext` to specify a shortened form of the heading for use in the running heads:

```
\head Fourier coefficients of continuous periodic functions
of bounded entropy norm\endhead
\rightheadtext{Fourier coefficients of periodic functions}
```

This should follow immediately after the `\head` to ensure that both take effect on the same page. If the chapter title is too long to fit as a running head, specify a shortened form in a similar way with `\leftheadtext` immediately after the `\title`.

8. GETTING HELP

If you encounter difficulties in preparing or submitting an $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\mathcal{T}\mathcal{E}\mathcal{X}$ manuscript in electronic form after it has been accepted for publication by the appropriate editorial board, you can ask for help from the American Mathematical Society at:

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Phone: 800-321-4267, ext. 4080 or 401-455-4080
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