

## USING THE IMA PREPRINT STYLE FILE

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This document explains the use of the IMA preprint style file to typeset preprints and reports with  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\TeX}$ . The IMA preprint style file, which is a modification of the `amspt` style of Michael Spivak, is intended as a general purpose preprint style for mathematical papers. It has been used by the Institute for Mathematics and its Applications since 1987 for its preprint series. In these instructions we assume familiarity with  $\mathcal{A}\mathcal{M}\mathcal{S}$ - $\text{\TeX}$  and `amspt`, as documented in *The Joy of  $\text{\TeX}$*  by Michael Spivak.

Most of the points introduced below are illustrated in the nonsense paper *A sample paper to illustrate the IMA preprint style*.

**Document style.** Include the commands `\input amstex` and `\documentstyle{imappt}` near the top of your document.

**Magnification.** To obtain reasonable results, you *must* set `\magnification=\magstep 1` before the command `\input amstex`.

**Title.** Use `\title` and `\endtitle`. Type the title in all caps. Attach any footnotes (see below) that apply to the paper as a whole to the title.

**Author.** Use `\author` and `\endauthor`. Type the author's name in all caps. For multiple authors type the word "and" in lowercase.

**Author's affiliation.** Give the affiliation of each author in a footnote (see below) attached to each author's name. Statements acknowledging support should be contained in the same footnote. Do *not* use the `\affil` or `\address` macros.

**Abstract.** If there is an abstract, use `\abstract`.

**Keywords.** If there are keywords, use `\keywords` with commas between keywords but without ending punctuation.

**Subject classifications.** If there are AMS subject classifications, use `\subjclass` with commas between classifications but without ending punctuation.

**Footnotes.** Use `\footnote`. For the topmatter, use footnote symbols. In the rest of the paper use numbered footnotes. The order of footnote symbols is star ( $\ast = \ast$ ), dagger ( $\dagger = \text{\dag}$ ), double-dagger ( $\ddagger = \text{\ddag}$ ), section-marker ( $\S = \text{\S}$ ).

**Headings.** Use `\heading` without ending punctuation. The argument consists of the section number followed by a period and then the section name with only the first word capitalized. Very long papers could use `\heading` and `\endheading` for major headings and `\heading` for minor headings. If `\heading` is used start heading name with a section mark ( $\S = \text{\S}$ ) and the section number followed by a period and the section title with the first letter of each major word capitalized.

**Equation numbers.** Use `\tag`.

**Theorems, etc.** Use `\proclaim` and `\endproclaim` for theorems, lemmas, corollaries, claims, propositions, etc. The argument to `\proclaim` takes no ending punctuation.

**Definitions.** Use `\proclaim` and `\endproclaim`, but use `\rm` to set the body of the definition in roman.

**Proofs, etc.** Use `\demo` and `\enddemo` for proofs, examples, remarks, cases, etc. The argument to `\demo` takes no ending punctuation. The end-of-proof mark is an open box ( $\square = \text{\qed}$ ).

**Lists and sublists.** Use `\roster` and `\endroster`. Rosters use default labels of the form (1), (2), etc. Subrosters are permitted. Each subroster *must* be enclosed in a separate pair of braces. Note that subrosters are *not* standard  $\mathcal{A}\mathcal{M}\mathcal{S}$ -TEX.

**References.** These can be done exactly as in *The Joy of T<sub>E</sub>X* using `\Refs` and `\ref`.

**Table of contents.** There are no special macros provided to set a table of contents. If a table of contents is desired, follow these guidelines. Switch to eight point type (`\eightpoint`). Center the word “CONTENTS” in caps. Capitalize only the first word of entries. Runover lines align with the start of entries. Place the section number flush left with one em to section title, spaced dots from end of entry to page number, and two ems between the dots and page number. Leave 18–20 points of vertical space, (baseline to baseline, before magnification) to the text above and below.

**Tables.** There are no special macros provided to set tables. Follow these guidelines. Switch to eight point type (`\eightpoint`). Center the table on the page width. Put a minimum of 18 points space (baseline to baseline, before magnification) above and/or below the table. Center the label over the table. The label should be of the form `\smc Table~1.` The title of the table should be in slanted roman centered over the table with only the first word capitalized. Column headings may be in set in six point type if necessary to fit properly over the columns. Place standard T<sub>E</sub>X rules (0.4 point thick, before magnification) above and below the column headings, and at the end of the table.

**Figure legends.** Use `\topspace` or `\midspace`. Set the caption as, for example, `\topspace{3 in}\caption{\eightpoint{\smc Fig\ 1.\enspace}\it Type caption here.}`.

**New control sequences available in the IMA preprint style.** The amount that each roster is indented is controlled by the value of `\rosterindent`. For most lists the default value need not be changed. To get a footer that indicates that the paper is a draft, give the command `\draft` immediately after the `\documentstyle` command. This will also print the date and the file name in the footer. Should you ever want to set the footer text explicitly, you may redefine `\footertext`.

**Control sequences available in the amsppt style but not the IMA preprint style.** Do not use the commands `\affil`, `\endaffil`, `\address`, `\date`, and `\thanks`. They have been redefined in the IMA preprint style file to give error messages when used, because their function has been taken over by other constructions, mainly footnotes to the title of the paper and the authors’ names.

**Fonts.** The font `cmcsc10` is used at 8 point (`cmcsc10 at 8 pt`) so there is a caps-and-small-caps font for use in references, etc. You must have the appropriate `pxl`, `pk` or `gf` file for your printer driver. (See your local T<sub>E</sub>X guru. He or she may be able to generate the font in the right size using Metafont.) Alternatively, you can redefine the font `\eightsmc` to be another font which you have available. If you have no eight point caps-and-small-caps font, then give the command `\font\eightsmc=cmr8` to substitute eight point roman.

The file uses the newer `cm` (computer modern) family of fonts (`cmr9`, `cmr8`, `cmr6`, `cmmi9`, `cmmi8`, `cmmi6`, `cmsy9`, `cmsy8`, `cmsy6`, `cmbx9`, `cmbx8`, `cmbx6`, `cmti9`, `cmti8`, `cmsl9`, `cmsl8`, `cmcsc10`, and `cmcsc10 at 8 pt`), so you will have to change these references to the appropriate `am` (almost modern) fonts if that is all you have available at your site. The style file also assumes the existence of the American Mathematical Society fonts `msxm9`, `msxm8`, `msxm6`, `msym9`, `msym8`, and `msym6`. If you do not have these fonts, then comment out the lines in `imappt.sty` that reference them.