

L^AT_EX Class for The *Annals of Mathematics**

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Abstract

This package provides a class for typesetting articles for The *Annals of Mathematics*

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1 Introduction

The *Annals of Mathematics* is published bimonthly with the cooperation of Princeton University and the Institute for Advanced Study. Founded in 1884 by Ormond Stone of the University of Virginia, the journal was transferred in 1899 to Harvard University, and in 1911 to Princeton University. Since 1933, the Annals has been edited jointly by Princeton University and the Institute for Advanced Study (see <http://annals.princeton.edu/annals/about/journal/about.html>).

This class presents a complete redesign of the journal style—with new fonts and new interface.

An author well acquainted with AMS \LaTeX should find this package easy to use and configurable. The User Manual below illustrates the basic use of the class and discusses the differences with `amsart`. For an in-depth tutorial of AMS \LaTeX I could recommend the excellent book [1].

2 User's Guide

2.1 Installation

The installation of the class follows the usual practice [2] for \LaTeX packages:

1. Run `latex` on `aomart.ins`. This will produce the file `aomart.cls`.
2. Put the file `aomart.cls` to the place where \LaTeX can find them (see [2] or the documentation for your \TeX system).
3. Update the database of file names. Again, see [2] or the documentation for your \TeX system for the system-specific details.
4. The file `aomart.pdf` provides the documentation for the package (this is the file you are probably reading now).

As an alternative to items 2 and 3 you can just put the files in the working directory where your `.tex` file is.

The class uses some other \LaTeX classes or packages. Most probably, they are already installed on your system. If not (or if their versions are very old), you need to download and install them. Here is the list:

1. `amsart` class and related packages [3],
2. Package `hyperref` [4],
3. `ifpdf` package [5],
4. `fancyhdr` package [6],
5. `cmtiup` package [7] for “special italics” with upright digits and punctuation. Note that since many distributions do not include this package, you may need to install it yourself. Just download the file <http://mirrors.ctan.org/fonts/cm/cmtiup.zip>, unzip it in your `TEXMF` directory and rebuild the file names database with the command like `mktexlsr`,

6. yhmath package [8].

2.2 Invocation

To use the class, put in the preamble of your document

```
\documentclass[options]{aomart}
```

The class internally loads `amsart`, so all facilities of `amsart` [1, 9] can be used in the source.

The class should work with the `Babel` [10] package. At present, English, French and German languages are fully supported.

options The options `draft` and `final` work in the same way as for `amsart` and standard
`draft` L^AT_EX. If the option `draft` is chosen, the overfull lines are marked by black
`final` boxes on the margins *and* the `\includegraphics` prints blank placeholders for the
images. The option `final` (default) switches off the marking of overfull lines and
restores the behavior of `\includegraphics`. To switch on just the overfull marks,
without changing the behavior of `\includegraphics`, one can either explicitly
pass the option `final` to `graphics` package:

```
\documentclass[draft]{aomart}  
\usepackage[final]{graphics}
```

or add in the beginning of the document

```
\overfullrule=5pt
```

option The option `manuscript` is intended to facilitate the communications between
`manuscript` the editor and the author. It enables two things:

1. Numbering of lines in the manuscript is switched off in the normal mode, but is on in the manuscript mode.
2. Command `\EditorialComment` is no-op in normal mode, but produces marginal commentaries in the manuscript
3. Hyperlinks are black in normal mode, but blue in manuscript mode.

option The option `screen` is intended for the onscreen version of the article. If this
`screen` option is selected, the links are blue colored, and the margins are reduced.

option Starting from version 1.9 (2011) the formatting of DOI numbers changed ac-
`olddoi` cording to the new recommendations from CrossRef. The option `olddoi` switches
on the “old” formatting. It is used for compatibility reasons.

option Starting from version 1.5 (2016) the formatting of DOI numbers changed
`doi2016` again according to Crossref recommendations. The option `doi2016` switches to
the version existed between 2011 and 2016.

options The size-changing options of `amsart` class (`8pt`, `9pt`, `...`, `12pt`) have no effect
`8pt` other than producing a warning in the log since the journal is designed for only
`9pt` one type size (roughly corresponding to `11pt` of `amsart`).

`10pt`
`11pt`
`12pt`

2.3 Top Matter

There are two kinds of top matter commands: the ones used primarily for authors and the ones used primarily for editors. We describe them separately.

The macros described below must be issued in the preamble of the document, i.e. before `\begin{document}`. They produce fatal error otherwise. This behavior is required by the way non-TeX scripts process the files to produce metadata.

The only exception is `abstract`, which should be placed between after `\begin{document}`.

2.3.1 Commands for Authors

`\title` The command `\title`, as in `amsart` class, has two arguments: one optional, and one mandatory:

`\title[<ShortTitle>]{<FullTitle>}`

The mandatory argument is the full title of the article. The optional argument, if present, defines the shorter version of the title for running heads. If the optional argument is absent, the full title is used instead.

The optional argument should be used in two cases: when the full title is too long to fit in the running head, *and* when the author wants to add a footnote or linebreaks to the title.

`\author` The interface for specifying the authors and their affiliations is close the the one of `amsart` [11] (and different from the standard L^AT_EX). For each author a separate command `\author` should be used, followed by `\address` and (optionally) `\curraddr`, `\email` and `\urladdr`. Note that the house style of the *Annals of Mathematics* requires writing `\address` in the form *Institution, City, State* (or *Institution, City, Country* for non-US locations). Like the newer versions of `amsart`, `aomart` does *not* require the doubling of the @ symbols in the e-mail addresses. The macro `\author` has two arguments, similarly to `\title`:

`\author[<AbbrevName>]{<FullName>}`

The optional argument defines the shorter form of the author's name to be included in the running head.

`\givenname` The papers published in the *Annals of Mathematics* are included in various databases. For the indexing purposes it is important to correctly separate the authors' names into "First Name/Surname" parts. This operation is not easy for the computers. Therefore we decided that the authors should know best how to deal with their names. The macros `\givenname` and `\surname` are used to indicate how to split the name into the parts.

`\fulladdress` Another command which does not affect the typesetting is `\fulladdress`. It is used to store the full mailing address of the author for the online version of the journal and various databases.

`\shortauthors` In some cases the authors list may be too long for the running head, even if the abbreviated forms are used for each author. In this case it is possible to change the running head by a *redefinition* of the command `\shortauthors`. This redefinition must be done after all `\author` commands, but before `\maketitle`:

`\renewcommand{\shortauthors}{A.~Smith et al}`

`\thanks` Like `amsart` (and unlike standard L^AT_EX), `aomart` allows `\thanks` only *outside* of commands `\title` and `\author`.

`\copyrightnote` Normally each paper is copyrighted by Department of Mathematics, Princeton University. This is reflected in the footnote on the first page of the article. However, by arrangement with the editors, certain papers may have different copyright. The command `\copyrightnote{copyright statement}`, if issued, changes the footnote to the corresponding text, for example:

`\copyrightnote{\textcopyright~2012 by the authors. This paper may be reproduced, in its entirety, for noncommercial purposes.}`

Note that if you issue this command, you should explicitly include both the copyright sign and the year unless the paper does not have a copyright, for example:

`\copyrightnote{This paper is in the public domain}`

`abstract` The abstract of the paper must be put between `\begin{abstract}` and `\end{abstract}`. Unlike the situation in `amsart` class, `abstract` may be put *after* `\maketitle`.

`\maketitle` The macro `\maketitle` typesets the top matter. All top matter information should be specified before this command.

2.3.2 Commands for Editors

The commands described in this section should be used by the editors to insert the information about the published paper. They must be put before the `\maketitle` command.

`\keyword` The command `\keyword` adds a keyword to the list of keywords. This command may be repeated, for example

`\keyword{Embedding theorem}`
`\keyword{Relatively hyperbolic group}`

`\subject` The command `\subject` has three parameters: whether the subject is primary or secondary, the classification scheme and the subject itself, for example

`\subject{primary}{msc2000}{20E45}`
`\subject{secondary}{msc2000}{20F65}`

`\formatdate` The macro `\formatdate` is used to format the dates in the commands. Its argument is the date in the format YYYY-MM-DD, for example

`\formatdate{2010-08-13}`

`\received` The commands `\received`, `\revised`, `\accepted`, `\published`, `\publishedonline`
`\revised` accept as a parameter a date in the form `\formatdate{YYYY-MM-DD}`, for
`\accepted` example
`\published` `\received{\formatdate{2004-12-24}}`
`\publishedonline` `\revised{\formatdate{2006-04-12}}`
`\accepted{\formatdate{2007-10-02}}`

`\proposed` The macros `\proposed`, `\seconded`, `\corresponding`, `\editor`, `\version` are
`\seconded` used to set the corresponding metadata for the editorial process, for example
`\corresponding` `\proposed{E. D. Itor}`
`\editor` `\seconded{A. S. Sociate}`
`\version` `\corresponding{A. U. Thor}`
`\version{2.1}`

`\volumenumber` The macros `\volumenumber`, `\issuenumber`, `\publicationyear`, `\papernumber`,
`\issuenumber` `\startpage`, `\endpage` set up the corresponding data for the paper, for example:
`\publicationyear` `\volumenumber{172}`
`\papernumber` `\issuenumber{1}`
`\startpage` `\publicationyear{2010}`
`\endpage` `\papernumber{1}`
`\startpage{1}`
`\endpage{39}`

Note that if the argument of `\endpage` is empty, L^AT_EX tries to calculate the last page number as best as it can.

`\copyrightyear` In the standard copyright statement the copyright year is assumed to be the same as the `\publicationyear`. However, for special cases one can set the copyright year explicitly, for example,
`\publicationyear{2012}`
`\copyrightyear{2011}`

Note that if you use your own copyright statement instead of the canned one (with the command `\copyrightnote`), you need to put there the copyright year explicitly instead of using this command.

`\doinumber` The macros `\doinumber`, `\mrnumber` and `\zblnumber` set the information
`\mrnumber` about paper in four major reference databases: DOI (<http://www.doi.org/>),
`\zblnumber` MathSciNet (<http://www.ams.org/mathscinet/>), Zentralblatt MATH (<http://www.zentralblatt-math.org/zmath/>) and arXiv (<https://www.arxiv.org>).
`\arxivnumber` The use of these macros should be obvious:

`\doinumber{10.1215/S0012-7094-92-06520-3}`
`\mrnumber{1154181}`
`\zblnumber{0774.14039}`
`\arxivnumber{1234.567890}`

Code	Example
<code>\widetilde{AB}</code>	\widetilde{AB}
<code>\widehat{AB}</code>	\widehat{AB}
<code>\widetriangle{AB}</code>	\widetriangle{AB}
<code>\wideparen{AB}</code>	\wideparen{AB}
<code>\widering{AB}</code>	\widering{AB}
<code>\widebar{AB}</code>	\widebar{AB}

Table 1: Wide Mathematical Accents

Note the difference between these commands and the bibliography commands discussed in Section 2.7. Commands in this Section set up the data for the *current article*. Commands in Section 2.7 set up the data for the articles in the bibliography list.

Normally you should *not* use `\doinumber` command, since the class will construct the standard DOI for the paper from the volume, issue and paper information. Use it *only* if the result is by any reason wrong.

`\oldsubsections` Starting with version 1.2 we decreased the vertical spacing before `\subsection`. The command `\oldsubsections` restores the “old” values.

2.4 Additional Macros

`eqnarray` Thee class `aomart` loads the class `amsart`. Therefore all familiar `amsmath` commands [9] are available. In particular, there are many commands for writing multiline equations (`split`, `align`, `gather`, `multline`, ...). The environments `eqnarray` and `eqnarray*`, while still available, are *not* recommended and should be avoided if possible.

`\widetilde` A number of “wide” mathematical accents is available due to the (internally loaded) package `yhmath` [8]: `\widetilde`, `\widehat`, `\widetriangle`, `\wideparen`, `\widering`, `\widebar`. See Table 1 for the example of the usage.

`\wideparen` The macro `\EditorialComment[comments]` typesets the comments on the margins in the `manuscript` mode, for example,

`\widering` Erd\“os proved the following theorem.
`\widebar` `\EditorialComment{A citation is needed}`

`\fullref` A set of macros is used to make more convenient clickable references in the online versions of papers. The package `hyperref` [4] makes clickable reference numbers in the phrases like

`\pfullref` ...in theorem~\ref{thm:Noeter}...
`\bfullref` ...see equation~\eqref{eq:alpha}...
`\eqfullref`

However, it is more convenient for the readers if both the number *and* the word “theorem” or “equation” were clickable. The macros `*fullref` solve this problem. Each macro has two arguments: the word and the reference, for example

```
...in \fullref{theorem}{thm:Noeter}...
```

The command `\pfullref` typesets the reference in parentheses. The command `\bfullref` typesets it in brackets, and the command `\eqfullref` uses the `\eqref` command, for example,

```
...see \eqfullref{equation}{eq:alpha}...
```

The Perl script `fullref.pl` can be used to convert change all references to the `\fullref` commands. It works in the following way:

```
perl fullref.pl original.pl > result.pl
```

The script converts all instances of combinations “word `\ref{reference}`” and “word`~\ref{reference}`” to “`\fullref{word}{reference}`”, and similarly for parenthesized references or `\eqref` commands. To prevent the converting, just put `\ref{reference}` or `\eqref{reference}` inside braces. The “word” here must not start with a backslash (i.e. must not be a macro itself). This prevents disastrous results for phrases like “see`~\ref{a}`, `\ref{b}`”.

The distribution includes two sample files, `aomsample.tex` and `aomsample1.tex`, the latter being obtained from the former by the script `fullref.pl`.

Note that `\autoref` command of `hyperref` provides for another mechanism that achieves the same goal. Unlike `\fullref` command, the command `\autoref` tries to figure out the name of the reference from the context. See the manual [4] for more information.

2.5 Theorems

`\newtheorem` You can use the commands of `amsthm` package [12] like `\newtheorem{lem}{Lemma}` for numbered theorems, or `\newtheorem*{KL}{Klein’s Lemma}` for unnumbered theorems, or tune the numbering using the optional arguments of these commands.

To provide backward compatibility with some other classes used internally by the *Annals of Mathematics*, the class provides yet another optional argument for the command `\newtheorem`, allowing constructions like `\newtheorem[it]{lem}{Lemma}`. This optional parameter is not used in our typesetting.

The class provides two theorem styles:

plain: This is the default theorem style. It is used for Theorem, Lemma, Proposition, Conjecture, Corollary and Claim.

definition: This style is used for Definition, Remark, Notation, Condition, Example etc.

Note that AMS classes define the third theorem style, **remark**. In our class remarks are typeset in the **definition** style. To make the authors' lives easier we define the theorem style **remark**, which is identical to the theorem style **definition**.

2.6 Illustrations

The authors can use the `graphics`, `graphicx`, `PSTricks`, `pgf/tikz`, `Metapost` or other tools to include illustrations (see [13] for a comprehensive discussion of L^AT_EX graphics possibilities).

2.7 Bibliography

The authors are encouraged to use BibT_EX for uniform style of bibliography. The distribution includes the BST files `aomplain.bst` and `aomalpha.bst`. These files have several additional non-standard fields:

mrnumber: MathSciNet number for the article.

zblnumber: Zentralblatt number for the article.

doi: DOI number for the article.

jfmnumber: JFM number for the article.

arxiv: ArXiv reference for the ArXiv manuscript.

url: If the reference is available online, the corresponding url.

venue: (for `conference` entries) The place where the conference took place.

sortyear: Some entries do not have a year set up (e.g. some `unpublished` entries. If you have several entries from the same author, some with a year, and some without, you may want to put them in a certain order. The field **sortyear** overrides **year** for the sorting purposes.

titlenote: this field is like **note**, but is typeset immediately after a title. It should be used for additional information, for example,

```
@Book{Knuth94:TheTeXbook,
  author = {Knuth, Donald Ervin},
  title = {The \TeX book},
  publisher = {Addison-Wesley Publishing Company},
  year = 1994,
  series = {Computers \& Typesetting A},
  address = {Reading, MA},
  titlenote = {with illustrations by Duane Bibby}
}
```

`\doi` There are several databases routinely used in the science and mathematics com-
`\mr` munities. Among them are DOI, MathSciNet, Zentralblatt, Jahrbuch Database,
`\zbl` ArXiv. Many bibliographies include references to these databases. The commands
`\jfm` `\doi`, `\mr`, `\zbl`, `\jfm`, `\arxiv` are used to typeset these references. If you use
`\arxiv` Bib_TE_X, these commands are automatically used for the corresponding fields in
your database entries.

3 Implementation

3.1 Identification

We start with the declaration who we are. Most `.dtx` files put driver code in a separate driver file `.drv`. We roll this code into the main file, and use the pseudo-guard `<gobble>` for it.

```
1 <class>\NeedsTeXFormat{LaTeX2e}
2 <*gobble>
3 \ProvidesFile{aomart.dtx}
4 </gobble>
5 <class>\ProvidesClass{aomart}
6 [2016/12/03 v1.16 Typesetting articles for the Annals of Mathematics]
```

And the driver code:

```
7 <*gobble>
8 \documentclass{ltxdoc}
9 \usepackage{array,booktabs,amsmath,graphics}
10 \let\widebar\overline
11 \usepackage{url}
12 \usepackage{amsfonts,yhmath}
13 \usepackage[breaklinks,colorlinks,linkcolor=black,citecolor=black,
14             pagecolor=black,urlcolor=black,hyperindex=false]{hyperref}
15 \PageIndex
16 \CodelineIndex
17 \RecordChanges
18 \EnableCrossrefs
19 \begin{document}
20   \DocInput{aomart.dtx}
21 \end{document}
22 </gobble>
23 <*class>
```

3.2 Options

The size-changing options produce a warning:

```
24 \long\def\@aom@size@warning#1{%
25   \ClassWarning{aomart}{Size-changing option #1 will not be
26     honored}}%
27 \DeclareOption{8pt}{\@aom@size@warning{\CurrentOption}}%
28 \DeclareOption{9pt}{\@aom@size@warning{\CurrentOption}}%
29 \DeclareOption{10pt}{\@aom@size@warning{\CurrentOption}}%
30 \DeclareOption{11pt}{\@aom@size@warning{\CurrentOption}}%
31 \DeclareOption{12pt}{\@aom@size@warning{\CurrentOption}}%
```

`\if@aom@manuscript@mode` Check whether we are in the manuscript mode

```
32 \newif\if@aom@manuscript@mode
33 \@aom@manuscript@modefalse
34 \DeclareOption{manuscript}{\@aom@manuscript@modetrue}
```

```

\if@aom@screen@mode Check whether we are in the screen mode
35 \newif\if@aom@screen@mode
36 \@aom@screen@modefalse
37 \DeclareOption{screen}{\@aom@screen@modetrue}

\if@aom@olddoi DOI processing is different in the “old” and new mode.
38 \newif\if@aom@olddoi
39 \@aom@olddoifalse
40 \DeclareOption{olddoi}{\@aom@olddoittrue}

\if@aom@doiMMXVI DOI processing is different in the 2016 and new mode
41 \newif\if@aom@doiMMXVI
42 \@aom@doiMMXVIfalse
43 \DeclareOption{doi2016}{\@aom@doiMMXVItrue}

All other options are passed to amsart:
44 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{amsart}}
Now we read the configuration file
45 \InputIfFileExists{aomart.cfg}{%
46 \ClassInfo{aomart}{%
47 Loading configuration file aomart.cfg}{%
48 \ClassInfo{aomart}{%
49 Configuration file aomart.cfg is not found}}
And process the options:
50 \ProcessOptions\relax

```

3.3 Loading Class and Packages

We start with the base class

```

51 \LoadClass[11pt]{amsart}
A bunch of packages:
52 \RequirePackage{fancyhdr, lastpage, ifpdf}
53 \RequirePackage[breaklinks,colorlinks]{hyperref}
54 \if@aom@screen@mode
55 \hypersetup{linkcolor=blue,citecolor=blue,
56 urlcolor=blue, pdfpagescrop={110 705 500 80}}%
57 \else\if@aom@manuscript@mode
58 \hypersetup{linkcolor=blue,citecolor=blue,
59 urlcolor=blue}%
60 \else
61 \hypersetup{linkcolor=black,citecolor=black,
62 urlcolor=black}%
63 \fi\fi
64 \urlstyle{rm}

```

Amsart has `\collect@body` macro. However, we want the `\long` version, so we use *environ*

```

65 \RequirePackage{environ}

```

3.4 Internationalization

There are some papers published in languages other than English. The Babel is expected to be used for them. Here we add some macros extending captions for these languages.

First, let us define English defaults:

```
\@aom@by This is just “By” in English:
66 \def\@aom@by{By}
```

```
\@aom@and This is “and” in English:
67 \def\@aom@and{and}
```

Now we can define internationalization:

```
68 \AtBeginDocument{\@ifpackageloaded{babel}{%
69   \addto\captionsfrench{\def\@aom@by{Par}\def\@aom@and{et}}%
70   \addto\captionsgerman{\def\@aom@by{Von}\def\@aom@and{und}}%
71   \addto\captionsenglish{\def\@aom@by{By}\def\@aom@and{and}}{}}}
```

3.5 Fonts

We use yhmth for wide symbols:

```
72 \RequirePackage{yhmth}
```

We need cmtiup package, but we may find out it is not installed.

```
73 \IfFileExists{cmtiup.sty}{%
74   \RequirePackage{cmtiup}}{%
75   \ClassWarning{aomart}{The package mdputu is not found.\MessageBreak
76     You need this package to get italics with upright digits!}}
```

`\specialdigits` A legacy macro. We do not need it anymore.

```
77 \def\specialdigits{%
78   \let\sisshape=\itshape
79   \let\textsi=\textit}
```

The amsart class defines several options for different font sizes (10pt, 11pt, etc). We have just one design size for the articles.

`\@typesizes` The font information in amsart is stored in `\@typesizes` macro. It has 11 type-sizes: 5 below and 5 above `\normalsize`.

```
80 \def\@typesizes{%
81   \or{\@vipt}{9}\or{\@vipt}{9}\or{\@viipt}{9}\or{\@ixpt}{12}%
82   \or{\@xpt}{13}%
83   \or{\@xipt}{14}% normalsize
84   \or{\@xiipt}{15}\or{13}{17}\or{\@xvipt}{20}%
85   \or{19}{23.2}\or{22}{27.8}}%
86 \normalsize \linespacing=\baselineskip
```

`\widebar` The functionality of `\widebar` coincides with that of amsmath `\overline`:

```
87 \let\widebar\overline
```

3.6 Page Dimensions and Paragraphing

`\textwidth` These are from the old aomamlt2e:
`\textheight` 88 `\setlength{\textwidth}{31pc}`
89 `\setlength{\textheight}{48pc}`

`\evensidemargin` The margins:
`\oddsidemargin` 90 `\oddsidemargin=.65in`
91 `\evensidemargin=.65in`

`\footins` Some skips from aomamlt2e:
`\topskip` 92 `\setlength{\topskip}{12pt}`
`\abovedisplayskip` 93 `\setlength{\abovedisplayskip}{6.95pt plus3.5pt minus 3pt}`
`\belowdisplayskip` 94 `\setlength{\belowdisplayskip}{6.95pt plus4.5pt minus 3pt}`
95 `\setlength{\skip\footins}{20pt}`
96 `\setlength{\dimen\footins}{3in}`

`\footskip` Some space for footnotes:
97 `\setlength\footskip{30pt}`

`\parskip` Paragraph shape:
`\parindent` 98 `\setlength{\parindent}{22pt}`
99 `\setlength{\parskip}{\z@}`

`\widowpenalty` We suppress widows and clubs:
`\clubpenalty` 100 `\widowpenalty=10000`
101 `\clubpenalty=10000`

3.7 Headers

`\headsep` Separation between the header and the body
102 `\setlength{\headsep}{14pt}`

`\headrulewidth` We do not want decorative rules in the journal:
`\footrulewidth` 103 `\renewcommand{\headrulewidth}{0pt}`
104 `\renewcommand{\footrulewidth}{0pt}`

`\@aom@linecount` This is the box displayed in the manuscript mode
105 `\if@aom@manuscript@mode`
106 `\newsavebox{\@aom@linecount}`
107 `\savebox{\@aom@linecount}[4em][t]{\parbox[t]{4em}{%`
108 `\@tempcnta\@ne\relax`
109 `\loop{\underline{\scriptsize\the\@tempcnta}}\%`
110 `\advance\@tempcnta by \@ne\ifnum\@tempcnta<43\repeat}}`
111 `\fi`

It is easy to set up headers with fancyhdr:

```

112 \pagestyle{fancy}
113 \fancyhead{}
114 \fancyfoot{}
115 \fancyhead[CO]{\scriptsize\shorttitle}
116 \fancyhead[RO,LE]{\footnotesize\thepage}
117 \if@aom@manuscript@mode
118   \fancyhead[LE]{\footnotesize\thepage\begin{picture}(0,0)%
119     \put(-26,-25){\usebox{\@aom@linecount}}}%
120   \end{picture}}
121   \fancyhead[LO]{\begin{picture}(0,0)%
122     \put(-21,-25){\usebox{\@aom@linecount}}}%
123   \end{picture}}
124   \fancyfoot[C]{\scriptsize Proof: page numbers may be temporary}
125 \fi
126 \fancyhead[CE]{\scriptsize\MakeUppercase\shortauthors}

```

The first page has the special headers. The style `firstpage` is invoked by `amsart`; here we just redefine it.

```

127 \fancypagestyle{firstpage}{%
128   \fancyhf{}%
129   \if@aom@manuscript@mode
130     \lhead{\begin{picture}(0,0)%
131       \put(-21,-25){\usebox{\@aom@linecount}}}%
132     \end{picture}}
133   \fi
134   \chead{\scriptsize%
135     \href{\@annalsurl}{Annals of Mathematics} \textbf{\currentvolume}
136     (\currentyear),

```

We always print the starting page. However, we print the last page only if it does not coincide with the first page. There are two cases here: first, the last page may still be `\pageref{LastPage}`. In this case we need to extract the numerical value of the counter—note that `hyperref` is in action! Second, we could redefine the last page, and it is no longer `\pageref{LastPage}`. In this case we need to compare the value with the first page.

```

137   \start@page%
138   \def\tempa{\pageref{LastPage}}%
139   \edef\tempb{\start@page}%
140   \ifx\tempa\end@page
141     \edef\tempa{\HyPsd@@\pageref{LastPage}}%
142   \else
143     \edef\tempa{\end@page}%
144   \fi
145   \ifx\tempa\tempb\else--\end@page\fi\\
146   \ifx\@doinumber\@empty\else
147     \edef\@doinumber{\@doinumber}%
148     \expandafter\doi\expandafter{\@doinumber}\fi%
149     \cfoot{\footnotesize\thepage}}%

```

```

\annalsurl The command to set up the URL of the journal
150 \def\annalsurl#1{\gdef\@annalsurl{#1}}
151 \annalsurl{http://annals.math.princeton.edu/about}

```

3.8 Top Matter Macros

We make these macros allowed only in the preamble:

```

152 \@onlypreamble{\title}
153 \@onlypreamble{\author}
154 \@onlypreamble{\email}
155 \@onlypreamble{\address}
156 \@onlypreamble{\curraddr}
157 \@onlypreamble{\urladdr}
158 \@onlypreamble{\givenname}
159 \@onlypreamble{\fulladdress}
160 \@onlypreamble{\surname}
161 \@onlypreamble{\thanks}
162 \@onlypreamble{\keyword}
163 \@onlypreamble{\subject}
164 \@onlypreamble{\received}
165 \@onlypreamble{\revised}
166 \@onlypreamble{\accepted}
167 \@onlypreamble{\published}
168 \@onlypreamble{\publishedonline}
169 \@onlypreamble{\proposed}
170 \@onlypreamble{\seconded}
171 \@onlypreamble{\corresponding}
172 \@onlypreamble{\editor}
173 \@onlypreamble{\version}
174 \@onlypreamble{\volumenumber}
175 \@onlypreamble{\issuenumber}
176 \@onlypreamble{\publicationyear}
177 \@onlypreamble{\copyrightnote}
178 \@onlypreamble{\copyrightyear}
179 \@onlypreamble{\papernumber}
180 \@onlypreamble{\startpage}
181 \@onlypreamble{\endpage}
182 \@onlypreamble{\doinumber}
183 \@onlypreamble{\mrnumber}
184 \@onlypreamble{\zblnumber}
185 \@onlypreamble{\arxivnumber}

```

Most top matter macros are defined in `amsart`. Here we just add some new macros and redefine some.

```

\fulladdress We store the information to output it later in the rpi file
\givenname 186 \def\@names{}
\surname 187 \def\givenname#1{\g@addto@macro\@names{givenname=#1;}}
188 \def\surname#1{\g@addto@macro\@names{surname=#1;}}
189 \def\fulladdress#1{\g@addto@macro\@names{fulladdress=#1;}}

```

`\author` We add mangling of `\@names` to the amsart macro

```
190 \renewcommand{\author}[2] [] {%
191   \ifx\@empty\authors
192     \gdef\authors{#2}%
193     \g@addto@macro\@names{author=#2;}%
194   \else
195     \g@addto@macro\authors{\and#2}%
196     \g@addto@macro\@names{\and author=#2;}%
197     \g@addto@macro\addresses{\author{}}%
198   \fi
199   \@ifnotempty{#1}{%
200     \ifx\@empty\shortauthors
201       \gdef\shortauthors{#1}%
202     \else
203       \g@addto@macro\shortauthors{\and#1}%
204     \fi
205   }%
206 }
207 \edef\author{\@nx\@dblarg
208   \@xp\@nx\csname\string\author\endcsname}
```

`\email` We change amsart macro to output metadata

```
209 \renewcommand{\email}[2] [] {%
210   \g@addto@macro\addresses{\email{#1}{#2}}%
211   \g@addto@macro\@names{email=#2;}%
212 }
```

`\urladdr` We change amsart macro to output metadata

```
213 \renewcommand{\urladdr}[2] [] {%
214   \g@addto@macro\addresses{\urladdr{#1}{#2}}%
215   \g@addto@macro\@names{urladdr=#2;}%
216 }
```

`\keyword` Actually amsart has `\keywords` macro. It redefines `\@keywords`. Our macro adds to the stack instead.

```
217 \def\keyword#1{\ifx\@keywords\@empty\gdef\@keywords{#1}\else
218   \g@addto@macro\@keywords{, #1}\fi}
```

`\subject` We do not typeset subject, but use it for PDF info.

```
219 \let\@subjects\@empty
220 \def\subject#1#2#3{\ifx\@subjects\@empty\gdef\@subjects{#1:#2:#3}\else
221   \g@addto@macro\@subjects{, #1:#2:#3}\fi}
```

`\formatdate` This just sends the date to the special macro `\@formatdate`

```
222 \def\formatdate#1{\@formatdate#1\endformatdate}
```

`\@formatdate` This macro takes date in the form YYYY-MM-DD and properly formats it. Note how we delete the leading zero in dates like April 02.

```

223 \def\@formatdate#1-#2-#3\@endformatdate{%
224   \@tempcnta=#3\relax
225   \ifcase#2\or
226     January\or February\or March\or April\or May\or June\or
227     July\or August\or September\or October\or November\or December\fi
228   \space\the\@tempcnta,\space#1}

\received The following macros add stuff to the footnotes material:
\revised 229 \def\received#1{\def\@received{#1}}
\accepted 230 \let\@received\@empty
\published 231 \def\revised#1{\def\@revised{#1}}
\publishedonline 232 \let\@revised\@empty
233 \def\accepted#1{\def\@accepted{#1}}
234 \let\@accepted\@empty
235 \def\published#1{\def\@published{#1}}
236 \let\@published\@empty
237 \def\publishedonline#1{\def\@publishedonline{#1}}
238 \let\@publishedonline\@empty

The next macros mimic the functionality of amsart \issueinfo command.
Note that \issueinfo still works.

\volumenumber This sets the volume of the paper
239 \def\volumenumber#1{\def\currentvolume{#1}}

\issuenumber This sets the issue of the paper:
240 \def\issuenumber#1{\def\currentissue{#1}}

\publicationyear This sets the year of the paper
241 \def\publicationyear#1{\def\currentyear{#1}}

\papernumber This is absent from the \issueinfo.
242 \def\papernumber#1{\def\currentpaper{#1}}
243 \papernumber{0000}

\startpage This defines the starting page of the paper. We have some nice features to set up
roman page numbers for editorial stuff—probably not needed for this journal at
this time...
244 \def\startpage#1{\pagenumbering{arabic}\setcounter{page}{#1}%
245   \def\start@page{#1}%
246   \ifnum\c@page<\z@ \pagenumbering{roman}\setcounter{page}{-#1}%
247     \def\start@page{\romannumeral#1}%
248   \fi}

\endpage This macro again has a twist in it: if the argument is not set, it calculates the last
page number itself.
249 \def\endpage#1{\def\@tempa{#1}%
250   \ifx\@tempa\@empty\def\end@page{\pageref{LastPage}}%
251   \else\def\end@page{#1}\fi}

```

`\pagespan` This macro is different from the one provided by `amsart` because we want to have the option of automatic calculation of the last page number.

```

252 \def\pagespan#1#2{\startpage{#1}\endpage{#2}}
253 \pagespan{1}{}
```

`\@getabstract` Amsart typesets the abstract in a box. We preserve this peculiarity, but we need to put abstract in a macro to output in the rpi file.

```

254 \long\def\@aom@abstract{}
255 \long\def\@getabstract#1{%
256   \long\gdef\@aom@abstract{#1}%
257   \ifx\maketitle\relax
258     \ClassWarning{aomart}{Abstract should precede
259       \protect\maketitle\space in AMS derived classes}%
260   \fi
261   \global\setbox\abstractbox=\vtop\bgroup%
262   \vglue1pc%
263   {\centering\normalfont\normalsize\bfseries\abstractname\par\vglue1pc}%
264   \list{}{\labelwidth\z@%
265     \leftmargin3pc \rightmargin\leftmargin%
266     \listparindent\normalparindent \itemindent\normalparindent%
267     \parsep\z@ \@plus\p@%
268     \let\fullwidthdisplay\relax%
269   }%
270   \item[]\normalfont\Small#1
271   \endlist\egroup}
```

`abstract` This puts abstract in a box *and* in a macro. Wasteful, but backward compatible

```

272 \renewenvironment{abstract}{\Collect@Body\@getabstract}{%
273   \ifx\@setabstract\relax\@setabstracta\fi}
```

`\proposed` We do not typeset the name of the proposer

```

274 \let\proposed\@gobble
```

`\seconded` Or the seconder

```

275 \let\seconded\@gobble
```

`\corresponding` This is the corresponding author—again not typeset

```

276 \let\corresponding\@gobble
```

`\version` We do not typeset the current version of the manuscript either...

```

277 \let\version\@gobble
```

`\doinumber` Now databases' numbers of the article:

```

\mrnumber 278 \def\doinumber#1{\gdef\@doinumber{#1}}
\zblnumber 279 \doinumber{10.4007/annals.\currentyear.\currentvolume.\currentissue.\currentpaper}
\arxivnumber 280 \def\mrnumber#1{\gdef\@mrnumber{#1}}
281 \mrnumber{}
282 \def\zblnumber#1{\gdef\@zblnumber{#1}}
```

```

283 \zblnumber{}
284 \def\arxivnumber#1{\gdef\@arxivnumber{#1}}
285 \arxivnumber{}

```

`\copyrightyear` This is the copyright year in case it does not coincide with the publication year:

```

286 \def\copyrightyear#1{\def\@copyrightyear{#1}}
287 \copyrightyear{}

```

`\copyrightnote` This is the copyrightnote. The default has some trickery with the year:

```

288 \def\copyrightnote#1{\def\@copyrightnote{#1}}
289 \copyrightnote{\textcopyright~%
290 \ifx\@empty\@copyrightyear\currentyear\else\@copyrightyear\fi~%
291 Department of Mathematics, Princeton University}

```

3.9 Typesetting Top Matter

`\@mainrpi` We write the information about the paper into file.rpi (the The stream for the rpi file:

```

292 \newwrite\@mainrpi

```

`\aom@write@paper@info` This writes the information about the paper into the file `jobname.rpi`. Note that `hyperref` makes our life a little bit more complex

```

293 \def\aom@write@paper@info{%
294   \bgroup
295   \if@filesw
296     \openout\@mainrpi\jobname.rpi%
297     \def\and{\string\and\space}%
298     \ifx\r@LastPage\@undefined
299       \edef\@tempa{\start@page}%
300     \else
301       \def\@tempc##1##2##3##4##5{##2}%
302       \edef\@tempa{\expandafter\@tempc\r@LastPage}%
303     \fi
304     \protected@write\@mainrpi{%
305       {\@percentchar authors=\authors}%
306     \protected@write\@mainrpi{%
307       {\@percentchar authors.information={\@names}}}%
308     \protected@write\@mainrpi{%
309       {\@percentchar title=\@title}%
310     \protected@write\@mainrpi{%
311       {\@percentchar year=\currentyear}%
312     \protected@write\@mainrpi{%
313       {\@percentchar volume=\currentvolume}%
314     \protected@write\@mainrpi{%
315       {\@percentchar issue=\currentissue}%
316     \protected@write\@mainrpi{%
317       {\@percentchar paper=\currentpaper}%
318     \protected@write\@mainrpi{%
319       {\@percentchar startpage=\start@page}%

```

```

320 \protected@write\@mainrpi{}%
321 {\@percentchar endpage=\@tempa}%
322 \protected@write\@mainrpi{}%
323 {\@percentchar doi=\@doinumber}%
324 \ifx\@zblnumber\@empty\else
325 \protected@write\@mainrpi{}%
326 {\@percentchar zbl=\@zblnumber}%
327 \fi
328 \ifx\@mrnumber\@empty\else
329 \protected@write\@mainrpi{}%
330 {\@percentchar mr=\@mrnumber}%
331 \fi
332 \ifx\@arxivnumber\@empty\else
333 \protected@write\@mainrpi{}%
334 {\@percentchar arxiv=\@arxivnumber}%
335 \fi
336 \protected@write\@mainrpi{}%
337 {\@percentchar subjects=\@subjects}%
338 \protected@write\@mainrpi{}%
339 {\@percentchar keywords=\@keywords}%
340 \protected@write\@mainrpi{}%
341 {\@percentchar abstract=\@aom@abstract}%
342 \closeout\@mainrpi
343 \fi
344 \egroup}

```

`\@maketitle@hook` We add writing the information to the hook:

```

345 \def\@maketitle@hook{\aom@write@paper@info\global\let\@maketitle@hook\@empty}

```

`\@settitle` We do not uppercase title. Also, we use this occasion to set PDF information:

```

346 \def\@settitle{\begin{center}%
347 \baselineskip20\p@\relax
348 \bfseries\LARGE
349 \@title
350 \ifpdf
351 \hypersetup{pdftitle=\@title}%
352 \fi
353 \end{center}}%
354 }

```

`\@setauthors` Now we typeset authors according to our specs. Again, we use this occasion to set some PDF information:

```

355 \def\@setauthors{%
356 \ifx\authors\@empty\relax\else
357 \begingroup
358 \def\thanks{\protect\thanks@warning}%
359 \trivlist
360 \centering\footnotesize \@topsep30\p@\relax
361 \advance\@topsep by -\baselineskip

```

```

362 \item\relax
363 \def\@and{\upshape \@aom@and}}
364 \author@andify\authors
365 \ifpdf
366 \hypersetup{pdfauthor=\authors}%
367 \fi
368 \def\{\{\protect\linebreak}%
369 \small \@aom@by{} \scshape\authors%
370 \ifx\@empty\contribs
371 \else
372 ,\penalty-3 \space \@setcontribs
373 \closesetcontribs
374 \fi
375 \endtrivlist
376 \endgroup
377 \fi}

```

\@setcontribs Contributors are set up in the same way as authors:

```

378 \def\@setcontribs{%
379 \xcontribs
380 {\scshape \xcontribs}%
381 }

```

\@adminfootnotes We do not typeset keywords, so we change the definition:

```

382 \def\@adminfootnotes{%
383 \let\@makefnmark\relax \let\@thefnmark\relax
384 \ifx\@empty\@date\else \@footnotetext{\@setdate}\fi
385 \ifx\@empty\@subjclass\else \@footnotetext{\@setsubjclass}\fi
386 \ifx\@empty\@keywords\else \@setkeywords\fi
387 \ifx\@empty\@subjects\else \@setsubjects\fi
388 \ifx\@empty\thankses\else \@footnotetext{%
389 \def\par{\let\par\@par}\@setthanks}%
390 \fi
391 \ifx\@empty\@copyrightnote\else \@footnotetext{%
392 \def\par{\let\par\@par}\@copyrightnote\@addpunct.}%
393 \fi
394 }

```

\@setkeywords We do not typeset keywords, but use them for the PDF information

```

395 \def\@setkeywords{%
396 \ifpdf
397 \hypersetup{pdfkeywords=\@keywords}%
398 \fi
399 }

```

\@setsubjects We do not typeset subjects, but use them for the PDF information

```

400 \def\@setsubjects{%
401 \ifpdf
402 \hypersetup{pdfsubject=\@subjects}%

```

```

403     \fi
404 }

```

\@@and We want “and” in the footers to be lowercase. Since there is some uppercase involved, we protect it:

```

405 \def\@@and{\MakeLowercase{\@aom@and}}

```

3.10 Typesetting End Matter

End matter is typeset at the end of the paper.

\enddoc@text This is the main macro for typesetting endmatter.

```

406 \def\enddoc@text{%
407   \ifx\@empty\@translators \else\@settranslators\fi
408   \ifx\@empty\@received \else\@setreceived\fi
409   \ifx\@empty\@revised \else\@setrevised\fi
410   \ifx\@empty\addresses \else\@setaddresses\fi}

```

\@setreceived A bunch of macros for setting centered dates

\@setrevised 411 \def\@setreceived{\centering(Received: \@received)\par}}

\@setaccepted 412 \def\@setrevised{\centering(Revised: \@revised)\par}}

\@setpublished 413 \def\@setaccepted{\centering(Accepted: \@accepted)\par}}

\@setpublishedonline 414 \def\@setpublished{\centering(Published: \@published)\par}}

415 \def\@setpublishedonline{\centering(Published online: \@publishedonline)\par}}

\emailaddrname We do not want the word “address” here:

```

416 \def\emailaddrname{\itshape E-mail}

```

\@setaddresses The difference between our definition and the one in amsart is that we want the e-mail and URL to be clickable

```

417 \def\@setaddresses{\par
418   \nobreak \begingroup
419   \footnotesize
420   \def\author##1{\nobreak\addvspace\bigskipamount}%
421   \def\{\unskip, \ignorespaces}%
422   \interlinepenalty\@M
423   \def\address##1##2{\begingroup
424     \par\addvspace\bigskipamount\indent
425     \@ifnotempty{##1}{(\ignorespaces##1\unskip) }%
426     {\scshape\ignorespaces##2}\par\endgroup}%
427   \def\curraddr##1##2{\begingroup
428     \@ifnotempty{##2}{\nobreak\indent\curraddrname
429       \@ifnotempty{##1}{, \ignorespaces\scshape##1\unskip}\hskip0.2em:\space
430       \scshape##2\par}\endgroup}%
431   \def\email##1##2{\begingroup
432     \@ifnotempty{##2}{\nobreak\indent\emailaddrname
433       \@ifnotempty{##1}{, \ignorespaces##1\unskip}\hskip0.2em:\space
434       \href{mailto:##2}{\nolinkurl{##2}}\par}\endgroup}%
435   \def\urladdr##1##2{\begingroup

```

```

436     \@ifnotempty{##2}{\nobreak\indent
437       \@ifnotempty{##1}{, \ignorespaces##1\unskip}%
438       \url{##2}\par}\endgroup}%
439   \addresses
440   \endgroup
441 }

```

3.11 Sectioning

`\contentsnamefont` This is the font for the word “Contents”:

```
442 \renewcommand\contentsnamefont{\bfseries}
```

`\section` We want our sections to be centered and bold:

```

443 \def\section{\@startsection{section}{1}%
444   \z@{.7\linespacing\@plus\linespacing}{.5\linespacing}%
445   {\normalfont\bfseries\centering}}

```

`\subsection` We want our subsections to be indented and italic:

```

446 \def\subsection{\@startsection{subsection}{2}%
447   {\parindent}{.5\linespacing}{-.5em}%
448   {\normalfont\itshape}}

```

`\oldsubsections` This macro restores the values for `\subsection` spacing prior to v1.1.

```

449 \def\oldsubsections{%
450   \gdef\subsection{\@startsection{subsection}{2}%
451     {\parindent}{.5\linespacing\@plus.7\linespacing}{-.5em}%
452     {\normalfont\itshape}}

```

`\subsubsection` Subsubsections are formatted exactly like subsections:

```

453 \def\subsubsection{\@startsection{subsubsection}{3}%
454   {\parindent}{.5\linespacing}{-.5em}%
455   {\normalfont\itshape}}

```

`\Hy@AlphNoErr` The newer (circa 2012) hyperref defines this command. However, older versions do not. Here we provide it:

```

456 \providecommand\Hy@AlphNoErr[1]{%
457   \ifnum\value{#1}>26 %
458     Alph\number\value{#1}%
459   \else
460     \ifnum\value{#1}<1 %
461       Alph\number\value{#1}%
462     \else
463       \Alph{#1}%
464     \fi
465   \fi
466 }%

```

`\appendix` We redefine appendix to ensure the letter in section number is always upright:

```
467 \def\appendix{\par\c@section\z@ \c@subsection\z@
468   \gdef\theHsection{\Hy@AlphNoErr{section}}%
469   \let\sectionname\appendixname
470   \def\thesection{\upshape\@Alph\c@section}}
```

3.12 Figures and Tables

`\@captionheadfont` This is the font for the words “Figure” or “Table” in captions. Unlike `amsmath` with is small caps, we want just plain Roman font:

```
471 \def\@captionheadfont{\normalfont}
```

3.13 Theorems

Here we redefine three main style of `amsart`. Here are the arguments of `\newtheoremstyle` from [3]:

```

#1
\newtheoremstyle{NAME}%
#2 #3 #4
{ABOVESPACE}{BELOWSPACE}{BODYFONT}%
#5 #6 #7 #8
{INDENT}{HEADFONT}{HEADPUNCT}{HEADSPACE}%
#9
{CUSTOM-HEAD-SPEC}
```

In the `plain` style the name (“theorem”) is in small caps, the number is in normal font, the optional note is also in normal font, and the text is italics.

```
472 \newtheoremstyle{plain}{0.5\linespacing}{0.5\linespacing}{\sishape}%
473   {\parindent}{\scshape}{.}{0.5em}%
474   {\thmname{#1}\thmnumber{ #2}\thmnote{\normalfont{ } (#3)}}
```

In the `definition` style the name is italics, and the body font is upright:

```
475 \newtheoremstyle{definition}{0.5\linespacing}{0.5\linespacing}%
476   {\upshape}{\parindent}%
477   {\sishape}{.}{0.5em}%
478   {\thmname{#1}\thmnumber{ #2}\thmnote{\normalfont{ } (#3)}}
```

In our class there is no difference between `remark` and `definition` theorem styles:

```
479 \newtheoremstyle{remark}{0.5\linespacing}{0.5\linespacing}%
480   {\upshape}{\parindent}%
481   {\sishape}{.}{0.5em}%
482   {\thmname{#1}\thmnumber{ #2}\thmnote{\normalfont{ } (#3)}}
```

`\newtheorem` For compatibility reasons we need to accept `\newtheorem` with optional first argument—and silently drop it. The problem is, there is `\newtheorem*`, so we need to check which one we deal with... The command `\@xnthm` here is from `amsthm`; it does the real work with the real parameters.

```

483 \renewcommand{\newtheorem}{\@ifstar{\@aom@newthm@star}{\@aom@newthm}}
484 \def\@aom@newthm@star{\@ifnextchar[{\@aom@newthm@star@}{\@aom@newthm@star@[]}}
485 \def\@aom@newthm@star@{\@ifnextchar[{\@aom@newthm@}{\@aom@newthm@[]}}
486 \def\@aom@newthm@star@[#1]{\@xnthm *}
487 \def\@aom@newthm@[#1]{\@xnthm \relax}

```

proof We want our proofs to be indented:

```

488 \renewenvironment{proof}[1][\proofname]{\par
489   \pushQED{\qed}%
490   \normalfont \topsep6\p@\@plus6\p@\relax
491   \trivlist
492   \item[\hskip\labelsep\hskip\parindent
493     \itshape
494     #1\@addpunct{.}]\ignorespaces
495 }{%
496   \popQED\endtrivlist\@endpfalse
497 }

```

3.14 Bibliography Macros

\repeatedauthors When the authors are repeated, we used change them to \bysame; we no more do this:

```

498 \def\repeatedauthors#1{\ClassWarning{aomart}{The command is obsolete}#1}

```

\bysame We no longer use \bysame

```

499 \let\bysame@@orig=\bysame
500 \def\bysame{\ClassWarning{aomart}{We no longer omit
501   repeated authors}\bysame@@orig}

```

\doi Typesetting doi...

```

502 \def\doi#1{%
503   \if@aom@doiMMXVI
504     \url{http://dx.doi.org/#1}%
505   \else
506     \if@aom@olddoi
507       \href{http://dx.doi.org/#1}{doi: \path{#1}}%
508     \else
509       \url{https://doi.org/#1}%
510     \fi
511   \fi}

```

\mr Typesetting urls

```

\zbl 512 \def\mr#1{\href{http://www.ams.org/mathscinet-getitem?mr=#1}{MR~\path{#1}}}
\arxiv 513 \def\zbl#1{\href{http://www.zentralblatt-math.org/zmath/en/search/?q=an:#1}{Zbl~\path{#1}}}
\jfm 514 \def\arxiv#1{\href{http://www.arxiv.org/abs/#1}{arXiv~\path{#1}}}
515 \def\jfm#1{\href{http://www.emis.de/cgi-bin/JFM-item?#1}{JFM~\path{#1}}}

```

\bibliofont We make this \small rather than \Small in amsart

```

516 \renewcommand{\bibliofont}{\small}

```

3.15 Additional Macros

`\EditorialComment` This macro is noop in normal mode, but is a tiny marginpar in the manuscript mode

```
517 \def\EditorialComment#1{\if@aom@manuscript@mode\bgroup
518   \marginparwidth=75pt\marginpar{\scriptsize\raggedright#1}\egroup\fi}
```

`\@fullref` This macro creates a wide link for the reference. It has four parameters: the word (theorem, equation,...), the “pre” punctuation, the reference and the “post” punctuation.

```
519 \def\@fullref#1#2#3#4{\hyperref[#3]{#1~#2\ref*{#3}#4}}
```

`\fullref` A reference without parentheses:

```
520 \newcommand{\fullref}[2]{\@fullref{#1}{}{#2}{}}
```

`\pfullref` A reference with parentheses:

```
521 \newcommand{\pfullref}[2]{\@fullref{#1}{()}{#2}{}}
```

`\bfullref` A reference with brackets:

```
522 \newcommand{\bfullref}[2]{\@fullref{#1}{}{#2}{[]}}
```

`\eqfullref` Here we do not use the standard common `\@fullref` because we want `\eqref` to work...

```
523 \newcommand{\eqfullref}[2]{\hyperref[#2]{#1~\textup{\tagform@{\ref*{#2}}}}}
```

`\eqnarray` While we do *not* recommend the use of `eqnarray`, we still would like to correct the ugly spacing around it...

```
524 \def\eqnarray{%
525   \stepcounter{equation}%
526   \def\@currentlabel{\p@equation\theequation}%
527   \global\@eqnswtrue
528   \m@th
529   \global\@eqcnt\z@
530   \tabskip\@centering
531   \let\\\@eqnocr
532   $$\arraycolsep1\p@
533   \everycr{}\halign to\displaywidth\bgroup
534     \hskip\@centering$\displaystyle\tabskip\z@skip{##}$\@eqnse1
535     &\global\@eqcnt\@ne\hskip \tw@arraycolsep \hfil${##}$\hfil
536     &\global\@eqcnt\tw@ \hskip \tw@arraycolsep
537     $\displaystyle{##}$\hfil\tabskip\@centering
538     &\global\@eqcnt\thr@@ \hb@xt@ \z@\bgroup\hss##\egroup
539     \tabskip\z@skip
540   \cr
541 }
```

3.16 End of Class

```
542 \</class>
```

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Change History

v0.10		\@setaddresses: Deleted the word	
\if@aom@screen@mode: Added		URL	24
screen mode	13	E-mail is now in Roman font . .	24
\jfm: Added macro	27	\@setpublishedonline: Decreased	
General: Bibliography styles		font	24
update	2	\@typesizes: Corrected typo in	
Documentation update	2	the definition of Small	14
Screen mode triggers special		Increased LARGE from 16 pt to	
URL settings	13	17 pt	14
v0.2		\bfullref: Added macro	28
General: First fully functional		\emailaddrname: Changed macro	24
version	2	\eqfullref: Added macro	28
v0.3		\fullref: Added macro	28
\EditorialComment: Added macro	28	\pfullref: Added macro	28
\arxiv: Added macro	27	\subsection: Redefined macro . .	25
\corresponding: Added macro . .	20	General: Added extra footer in	
\doinumber: Added macro	20	manuscript mode	16
\if@aom@manuscript@mode: Added		Corrected the byg with math in	
manuscript mode	12	headers	16
\mr: Added macro	27	Made remark theorem style	
\mrnumber: Added macro	20	identical to definition theorem	
\newtheorem: Redefined macro . .	26	style	26
\proposed: Added macro	20	Made Roman font the default	
\seconded: Added macro	20	URL font	13
\version: Added macro	20	proof: Redefined macro	27
\zbl: Added macro	27	v0.6	
\zblnumber: Added macro	20	\@setauthors: 'By' and 'and' are	
General: Added DOI number in		in Roman font now	22
headers	16	\belowdisplayskip: Changed	
Added package mdputu	14	belowdisplayskip	15
Documentation update	2	\biblio font: Changed default . .	27
v0.4		\zbl: Changed capitalization . . .	27
\@aom@linecount: Added macro . .	15	General: Changes to bst files	2
\enddoc@text: Deleted many		Fullref.pl is much less aggressive	
dates.	24	now	2
General: Changed definition		v0.7	
theorem style	26	General: Bibliography styles	
Changed plain theorem style . .	26	changed	2
Deleted lineno package		v0.8	
dependence	13	\specialdigits: Redefined to	
Deleted remark theorem style . .	26	noop	14
Documentation update	2	General: Added yhmth	14
Switched to upright digits in		Bibliography styles update	2
italics everywhere	14	Changed authors in header	16
Used line numbers for headings	16	Documentation update	2
v0.5		Switched to cmtiup	14
\@fullref: Added macro	28		

v0.9	Deleted \repeatedauthors from the documentation	2
\@@and: Redefined macro		24
\@setaddresses: Deleted spurious space in urladdress		24
\@setpublishedonline: Increased font		24
\eqnarray: Redefined standard macro		28
General: Bibliography styles update		2
Changed font for the folio on the first page		16
Documentation update		2
abstract: Added parindent for the first par		20
v1.0		
\doinumber: Added default		20
\papernumber: Added macro		19
General: Top matter macros are now only in preamble		2
v1.1		
General: In manuscript mode the links are always blue		13
v1.10		
\@@and: Added internationalization		24
\@aom@and: Added macro		14
\@aom@by: Added macro		14
\@setauthors: Internationalization		22
\doi: Introduced the logic for old doi formatting		27
\if@aom@olddoi: Added old DOI processing		13
v1.11		
\@adminfootnotes: Added copyright statement		23
\@setaddresses: Changed email handling		24
\bysame: Made the macro obsolete		27
\copyrightnote: Added macro		21
\copyrightyear: Added macro		21
\fulladdress: Added macro		17
\repeatedauthors: Now this command is obsolete		27
General: Added \fulladdress		2
Added new commands for copyright statement		2
Bibliography change: titlenote, deleted bysame		2
v1.12		
\appendix: Added hyperref definition		26
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\Hy@AlphNoErr: Added macro for older installations		25
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\@mainrpi: Added macro		21
\@maketitle@hook: Added macro		22
\aom@write@paper@info: Added macro		21
v1.14a		
\annalsurl: New url		16
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\doi: Doi according to the new Crossref recommendations		27
\if@aom@doiMMXVI: Added another options		13
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\aom@write@paper@info: Added names, abstract, subjects, keywords, zblnumber, arxivnumber		21
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\arxivnumber: Added macro		20
\author: Redefined amsart definition		18
\email: Redefined amsart definition		18
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\givenname: Redefined		17
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	vertical spacing		25
	<code>\subsubsection:</code> Introduced the		25
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		<code>\arxiv:</code> Typo corrected	27
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		styles, corrected typo	2
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