LaTeX Style for Environmental and Engineering Geophysical Society's Annual Meeting Papers *

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Abstract

This package provides class for typesetting papers for Environmental and Engineering Geophysical Society's Annual Meeting, SAGEEP. It is based on the recommendations for SAGEEP-2009.

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1 Introduction

The Environmental and Engineering Geophysical Society (EEGS) is an international scientific organization with about 700 members [1]. One of its main activities is its annual meetings, the Application of Geophysics to Engineering and Environmental Problems (SAGEEP). The papers for this meeting are accepted as PDF files. This class typesets papers according to the guidelines [2], intended for SAGEEP-2009. It should probably work for the future SAGEEP, unless EEGS changes its guidelines.

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2 User Guide

2.1 Installation

The class uses some LaTeX packages. Normally they should be present in any up-to-date distribution. If you do not have them, you can download them using the links below prior to using the class.

You will need PSFNSS [3]: the LaTeX package providing the access to common PostScript fonts. Of course you will need the fonts themselves. You will also need packages geometry [4], caption citeSommerfeldt07:Caption and natbib [5].

The installation of the class follows the usual practice [6] for LaTeX packages:

1. Run latex on `sageep.ins`. This will produce the LaTeX class `sageep.cls`.
2. Put the files `sageep.cls` and `sageep.bst` to the places where LaTeX and BibTeX can find them (see [6] or the documentation for your TeX system).
3. Update the database of file names. Again, see [6] or the documentation for your TeX system for the system-specific details.
4. The file `sageep.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 `sageep.cls` and `sageep.bst` in the working directory where your `.tex` file is.

2.2 Invocation

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

`\documentclass[`⟨*options*⟩`]{sageep}`

options

`8pt`
`9pt`
`10pt`
`11pt`
`12pt`

The class recoginzes the standard LaTeX options, shared by the most document classes [7]. The default font size changing options (`8pt`, `9pt`, ..., `12pt`) have no effect other than producing a warning in the log.

2.3 Use of the Class

Most of the standard LaTeX commands work with the class. Here we document only the differences from the standard system.

2.3.1 Front Matter

\title
\author
\maketitle

The `\title` command works as usual. The `\author` command should include both the author's name and affiliation in the format described in [2] (first name, middle initial, last name, name of organization/institution, city and state abbreviation or country). For papers with several authors you can issue several `\author` commands. For example,

```
\author{Sam A. Llaun, Academy of Lagado, Lagado, Balnibarbi}
\author{James Incandenza, Interdependence University, Boston, MA}
```

The command `\maketitle` should be put *after* `\title` and `\author` commands.

2.3.2 Sections

section

The sections in SAGEEP articles are unnumbered. Accordingly, the command `\section` does not produce section number (and is equivalent to the command `\section*`).

There is a certain inconsistency in the format guidelines [2]: the text says that section headings should be in initial caps, while the headings in the sample are uppercase. Therefore the class does not change the case of the headings and subheadings. If you enter them with initial caps, they will be typeset with initial caps. If you enter them in upper case, they will be typeset in upper case.

Note that "Abstract" should be the first section of the paper. The other obligatory sections are "Conclusions" and "References".

2.3.3 Tables and Figures

\caption

There is an important difference between the style of tables required by [2] and the standard LaTeX style: the caption of a table must be placed *above* the table rather than below it. The class takes care of the proper spacing between the caption and the table body, but it is your responsibility to put the `\caption` command in a table first, and then the body of the table, for example:

```
\begin{table}[htbp]
  \caption{North American Paper Sizes}
  \label{tab:paper}
  \begin{tabular}{lll}
    \hline
    Size & in $\times$ in &mm $\times$ mm\\
    \hline
    Letter &8.5 $\times$ 11 &216 $\times$ 279\\
    Legal &8.5 $\times$ 14 &216 $\times$ 356\\
```

```
    Junior Legal &8 x 5 &\\
    Ledger &17 $\times$ 11 &432 $\times$ 279\\
    Tabloid &11 $\times$ 17 &279 $\times$ 432\\
    \hline
  \end{tabular}
\end{table}
```

Do not center table or figure body.

To include graphics you can use, for example, the graphics bundle [8]. It is *not* loaded automatically.

2.3.4 References

`\cite` The class loads natbib package [5] to properly format the references. It also redefines `\cite` to work as `\citep`, producing a parenthetical (author, year) citation. You can get the other forms of citation using `\citet`, `\citeauthor` or `\citeyear` commands of natbib.

The BibTEX style `sageep.bst` is supplied with the class to format the list of references. If you use BibTEX, just select this bibliography style with `\bibliographystyle{sageep}`.

This style has a non-standard treatment of manuals as required by SAGEEP style: the organization that published the manual is used as an author of the manual for sorting and citation purposes. Of course this means that manuals should not have real authors, which is usually the case with technical manuals.

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.

```
⟨class⟩\NeedsTeXFormat{LaTeX2e}
⟨*gobble⟩
\ProvidesFile{sageep.dtx}
⟨/gobble⟩
⟨class⟩\ProvidesClass{sageep}
[2009/01/14 v1.0 Typesetting Papers for Environmental and
  Engineering Geophysical Society's Annual Meeting]
```

And the driver code:

```
⟨*gobble⟩
\documentclass{ltxdoc}
\usepackage{array}
\usepackage{url,amsfonts}
\usepackage[breaklinks,colorlinks,linkcolor=black,citecolor=black,
            pagecolor=black,urlcolor=black,hyperindex=false]{hyperref}
\PageIndex
\CodelineIndex
\RecordChanges
\EnableCrossrefs
\begin{document}
  \DocInput{sageep.dtx}
\end{document}
⟨/gobble⟩
⟨*class⟩
```

3.2 Options

`\sageep@size@warning` The font-changing options are not used in our setup, so we just produce a warning:

```
\long\def\sageep@size@warning#1{%
  \ClassWarning{sageep}{Size-changing option #1 will not be
    honored}}%
\DeclareOption{8pt}{\sageep@size@warning{\CurrentOption}}%
\DeclareOption{9pt}{\sageep@size@warning{\CurrentOption}}%
\DeclareOption{10pt}{\sageep@size@warning{\CurrentOption}}%
\DeclareOption{11pt}{\sageep@size@warning{\CurrentOption}}%
\DeclareOption{12pt}{\sageep@size@warning{\CurrentOption}}%
```

All other options are just sent to the main class:

```
\DeclareOption*{\PassOptionsToClass{\CurrentOption}{book}}
\ProcessOptions\relax
```

3.3 Loading Class and Packages

We start with the base class

```
\LoadClass[12pt]{article}
```

3.4 Fonts

We use Times for the main font. The guidelines say nothing about other fonts, but to reproduce the familiar look, we also use Helvetica for the sans serifed font, and Courier for the monospaced font:

```
\usepackage{mathptmx}
\usepackage[scaled]{helvet}
\usepackage{courier}
```

3.5 Page Dimensions and Paragraphing

The requirements are 0.75" margin top, left and right, and 1" bottom.

```
\RequirePackage[top=0.75in, left=0.75in, right=0.75in, bottom=1in]{geometry}
```

`\parindent` The paragraphs have 0.5" indentation

```
\setlength{\parindent}{0.5in}
```

We indent even the paragraphs after section heads:

```
\RequirePackage{indentfirst}
```

3.6 Headers and Footers

No footers or headers:

```
\pagestyle{empty}
```

3.7 Front Matter

`\author` The `\author` command can be repeated. Each invocation adds an author and affiliation to the list of authors. The following is adapted from [9].

```
\renewcommand{\author}[1]{%
  \ifx\@empty\authors
     \gdef\authors{#1}%
  \else
     \g@addto@macro\authors{\and#1}%
  \fi}
\let\authors\@empty
```

`\maketitle` Now we are ready to make the title. The title and authors are centered.

```
\def\maketitle{%
  \bgroup
  \centering
  \ifx\@empty\@title\relax
```

```
  \else
    {\large\bfseries\MakeUppercase{\@title}\par\vspace{\baselineskip}}%
  \fi
  \ifx\@empty\authors\relax
  \else
    {\let\and=\linebreak
      \normalfont\itshape\authors\par\vspace{\baselineskip}}%
  \fi
  \egroup}
```

3.8 Sectioning

We do not number sections:

```
\setcounter{secnumdepth}{0}
```

`\section` Sections are in 14 pt bold centered.

```
\renewcommand\section{\@startsection{section}{1}{0pt}{\baselineskip}%
  {\baselineskip}{\normalfont\centering\large\bfseries}}
```

`\subsection` Subsections are bold, italics, normal size:

```
\renewcommand\subsection{\@startsection{subsection}{2}{0pt}{\baselineskip}%
  {1sp}{\normalfont\normalsize\itshape\bfseries}}
```

3.9 Floats

We use caption package [10] for control of captions:

```
\RequirePackage{caption}
```

Captions are justified left with "Figure" or "table" in boldface:

```
\captionsetup{labelfont=bf, indent=0pt, singlelinecheck=off}
```

For tables the caption is above the table:

```
\captionsetup[table]{position=above}
```

We change the parameters of float placement according to the recommendations from [11]:

```
\renewcommand{\textfraction}{0.05}
\renewcommand{\topfraction}{0.95}
\renewcommand{\bottomfraction}{0.95}
\renewcommand{\floatpagefraction}{0.35}
\setcounter{totalnumber}{5}
```

3.10 Bibliography

We use natbib [5].

```
\RequirePackage[round]{natbib}
```

`\cite` We redefine `\cite` to be `\citep`:

```
\let\cite=\citep
```

3.11 The final word

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References

[1] EEGS web site. http://www.eegs.org/, accessed December 2008.

[2] A sample paper showing the format required for your contribution to the SAGEEP 2009 proceedings. http://www.eegs.org/pdf_files/sageep09_formatting.doc, October 2008.

[3] Walter Schmidt. *Using Common PostScript Fonts With LaTeX. PSNFSS Version 9.2*, September 2004. http://ctan.tug.org/tex-archive/macros/latex/required/psnfss.

[4] Hideo Umeki. *The geometry Package*, December 2008. http://ctan.tug.org/tex-archive/macros/latex/contrib/geometry.

[5] Patrick W. Daly. *Natural Sciences Citations and References (Author-Year and Numerical Schemes)*, February 2007. http://ctan.tug.org/tex-archive/macros/latex/contrib/natbib.

[6] UK TeX Users Group. UK list of TeX frequently asked questions. http://www.tex.ac.uk/cgi-bin/texfaq2html, 2006.

[7] Leslie Lamport. *LaTeX: a Document Preparation System*. Addison-Wesley Publishing Company, Reading, Ma., 2 edition, 1994. Illustrations by Duane Bibby.

[8] D. P. Carlisle. *Packages in the 'Graphics' Bundle*, November 2005. http://ctan.tug.org/tex-archive/macros/latex/required/graphics.

[9] Michael Downes and Barbara Beeton. *The amsart, amsproc, and amsbook document classes*. American Mathematical Society, August 2004. http://www.ctan.org/tex-archive/macros/latex/required/amslatex/classes.

[10] Axel Sommerfeldt. *Typesetting Captions with the caption Package*, February 2007. http://ctan.tug.org/tex-archive/macros/latex/contrib/caption.

[11] Piet van Oostrum. Floats in LaTeX. http://people.cs.uu.nl/piet/floats/, February 1997.

Change History

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Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in roman refer to the code lines where the entry is used.