# Authors' guide to the IGS LATEX $2_{\mathcal{E}}$ class file

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ABSTRACT. The design for the *Journal/Annals of Glaciology* has been implemented as a LATEX  $2_{\varepsilon}$  class file and is derived from article.cls. It is intended that authors use the class file in two-column format to check that mathematical equations fit the measure, but that submitted papers are in one-column format. The *Journal/Annals of Glaciology* are printed in Optima. However, submissions using Computer Modern are fine. If you have any problems using the class file, please email Ali Woollatt at the above address, attaching your tex, log, cls, sty, bib, bbl, bst and any additional sty files you are using. The abstract should be less than 200 words and one paragraph long.

#### USING THE IGS CLASS FILE

The IGS IATEX  $2_{\mathcal{E}}$  guide has examples of most environments authors are likely to come across. The title page contains some new environments, e.g. affiliation and abstract, illustrated below. Papers should be divided into unnumbered sections with short section headings. SI units and internationally recognized systems of abbreviation should be used throughout. The TeX file should be named to reflect your paper number, i.e. 06J015.tex.

# Additional packages supplied with igs.cls

The distribution package contains 19 files, namely

igs.cls IGS class file

igs.bst IGS bibliography style file igsnatbib.sty IGS style file for citations

igs2eguide.tex IGS LATEX guide

igs2eguide.bib sample BibTeX database igs2eguide.pdf pdf file of this guide

amsbsy.sty style file called in by igsupmath.sty

amsgen.sty

amssymb.sty accesses AMS fonts msam and msbm style file called in by amssymb.sty

 $\begin{array}{ll} \text{fig01.eps} & \text{figure 1} \\ \text{fig02.eps} & \text{figure 2} \end{array}$ 

graphicx.sty graphics style file

lineno.sty style file required for [review] option

edtable.sty "ednmath0.sty "ltabptch.sty "

stfloats.sty style file to enable double-column floats

to fall at the bottom of pages

# Typesetting the title page

In the IGS design, shortened versions of the title and authors are used in the running head. The shortened version is typeset in square braces immediately after the **\title** and

\author commands (see below). The order in which the following elements appear may be crucial, i.e. \maketitle must be the last command before your paper commences. The default style is for Journal of Glaciology, one column, A4 paper. The other options are listed below. Authors using letterpaper size can use the letterpaper option, which reduces the number of lines on the page from 63 to 59 (the text width remains the same). Be aware that using letterpaper will fractionally lengthen your article. This guide was typeset using the following code:

% \documentclass{igs}

\documentclass[twocolumn]{igs}

% \documentclass[annals]{igs}

% \documentclass[annals,twocolumn]{igs}

% \documentclass[letterpaper]{igs}

% \documentclass[twocolumn,letterpaper]{igs}
% \documentclass[annals,letterpaper]{igs}

% \documentclass[annals,twocolumn,letterpaper]{igs}

% when submitting your article for review, use one

% of the following two options:

% \documentclass[review]{igs}

% \documentclass[annals,review]{igs}

\usepackage{igsnatbib}
\usepackage{stfloats}

% check if we are compiling under latex or pdflatex \ifx\pdftexversion\undefined

\usepackage[dvips]{graphicx}

\else

\usepackage[pdftex]{graphicx}

\fi

% the default is for unnumbered section heads

% if you really must have numbered sections, remove

 $\mbox{\ensuremath{\mbox{\%}}}$  the  $\mbox{\ensuremath{\mbox{\%}}}$  from the beginning of the following command

% and insert the level of sections you wish to be

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<sup>\*</sup>Present address: Center for Glaciology, Institute of Geography and Earth Sciences, University of Wales, Aberystwyth SY23 3DB, UK.

% numbered (up to 4):

% \setcounter{secnumdepth}{2}

\begin{document}

\title[IGS \LaTeXe\ guide]{Authors' guide to the
IGS \LaTeXe\ class file}

\author[Woollatt and others]{Ali J. WOOLLATT,\$^1\$ Craig BAXTER,\$^2\$\protect\thanks{Present address: Center for Glaciology, Institute of Geography and Earth Sciences, University of Wales, Aberystwyth SY23 3DB, UK.}\ \ Linda GORMAN,\$^2\$ Christine BUTLER,\$^{3}\$ Magn\'us M. MAGN\'USSON\$^1\$}

\affiliation{%

\$^1\$International Glaciological Society, Scott
Polar Research Institute, Lensfield Road,
Cambridge CB2 1ER, UK\\

E-mail: ali@igsoc.org\\

\$^2\$Climate Change Institute, University of Maine, 303 Bryand Global Sciences Center, Orono, ME 04469-5790, USA\\

\$^3\$Institute of Geological and Nuclear Sciences Ltd, PO Box 30368, Lower Hutt, New Zealand}

\abstract{The design for the \emph{Journal/Annals}
 of Glaciology} has been implemented as a \LaTeXe\
 class file...}

\maketitle

\section{Using the IGS class file}

#### Lists

The IGS class file provides for numbered (enumerate) and unnumbered (itemize) lists. Nested lists are not encouraged. The default numbering system is 1., 2., 3., etc., please do not change this unless there is a good reason. The IGS design removes bullet points from unnumbered lists.

# User-defined macros

If you define your own macros you must ensure that their names do not conflict with any existing macros in plain  $T_EX$  or  $IAT_EX 2_E$ . They should be placed in the preamble to your input file, between \documentclass and \begin{document}. You can check if the macro name is already in use by typing \show\macro\_name>.

#### **Tables**

Tables may be typeset in either one- or two-column format. To typeset two-column format, add asterisks

(\begin{table\*}...\end{table\*}) as shown in Table 2. We may change the format in-house if necessary. Please note that if you choose to refer to tables using labels, \caption must precede \label, as in standard IATEX. Vertical rules are not house-style and will be removed. Note the use of the minipage environment in Table 1 which enables table footnotes to be output. If the table is two column, use {178mm} instead of {86mm} on line 6. The source code for Tables 1 and 2 is shown immediately below the tables.

**Table 1.** One-column table captions will extend beyond the rules in two-column format. Do not try to adjust! Table captions do not have full points at the end

Period*	Surface elevation change	Emergence velocity
1975-85	-0.50	0.43
1986 – 2002	-1.03	0.32
Difference	-0.53	-0.11

<sup>\*</sup>A table must be inside a minipage environment if it includes table footnotes.

\begin{table}% table1, one column

\caption{One-column table captions will extend beyond
 the rules in two-column format. Do not try to adjust!
 Table captions do not have full points at the end}
\label{period}

\begin{minipage}{86mm}% you only need this line if you
% have a table footnote

\begin{tabular}{@{}lcc}\hline

Period\footnote{A table must be inside a \texttt{minipage} environment if it includes table footnotes.}

& Surface elevation change

& Emergence velocity\\ \hline

1975--85 & \$-0.50\$ & 0.43\\

1986--2002 & \$-1.03\$ & 0.32\\

Difference & \$-0.53\$ &  $\lap{$-$}0.11$ 

\end{tabular}

\end{minipage}, you only need this line if you have a
% table footnote

\end{table}

#### **Figures**

Figures may be typeset in either one- or two-column format. One-column format allows up to 86 mm (e.g. Fig. 1); two-column format up to 178 mm (e.g. Fig. 2). To typeset two-column format, add asterisks (\begin{figure\*}...\end{figure\*}) as shown in Figure 2. We may change the format in-house if necessary. Please note that if you choose to refer to figures using labels, \caption must precede \label, as in standard IATEX.

In addition, figures should be eps, ai (illustrator), ps, tif, psd, not jpeg. Use strong black lines (avoid tinting if possible) and SI units in labels. Lettering should ideally be Optima to match the final typeface; Ariel or a similar sans serif font for a second choice. Aim to have the final-size lettering at 9pt, if possible. Figures should not be in boxes. The source code for Figures 1 and 2 is shown immediately below the figures.

# **Equations**

We are including some complex equations as examples. Equations should be checked for width using the [twocolumn] option. Note the use of arrays in the following equation:

$$\alpha_{t_2} = \begin{cases} \alpha_{t_1} - a_1 [\ln(T+1)] e^{(a_2\sqrt{n})} & n_{d} > 0 \text{ and } T > 0\\ \alpha_{t_1} - a_3 e^{(a_2\sqrt{n})} & n_{d} > 0 \text{ and } T < 0\\ \alpha_{t_1} + a_4 P_{s} & n_{d} = 0 \end{cases}$$
(1)

Equation (1) above used the following code:

\begin{equation}
\label{arrayexample}
\alpha\_{t\_2}= \left\{%}

```
\begin{array}{11}
    \alpha_{t_1} - a_1 [\ln (T+1)]
    \mathrm{e}^{(a_2\sqrt{n})}
    & \mbox{$n_\mathrm{d} > 0\enskip$ and
      $\enskip T > 0$}\\
    \alpha_{t_1} - a_3 \mathrm{e}^{(a_2\sqrt{n})}
    & \mbox{$n_\mathrm{d} > 0\enskip$ and
      $\enskip T < 0$}\\
    \alpha_{t_1} + a_4 P_\mathrm{s}
    & \mbox{$n_\mathrm{d} = 0$}
    \end{array}
\right.
\end{equation}</pre>
```

Equations should be aligned on the equals signs where possible. Equations that extend beyond the one-column measure should be turned over before an operator. Note the  $\scalebox{skew4}$  command below which moves the bar over the R to the right. The value generally varies between  $\scalebox{skew1}$  and  $\scalebox{skew5}$ .

$$l_c = l_0 \left(\frac{\bar{R}_m}{R}\right)^2 \psi^{\frac{P}{P_0 \cos Z}} \times \left[\cos \beta \cos Z + \sin \beta \sin Z \cos(\psi_{\text{sun}} - \psi_{\text{slope}})\right] (2)$$

Equation (2) above used the following code:

# Typesetting upright Greek characters

The igsupmath package provides macros for upright lower-case Greek (\ualpha-\uxi), and for bold lower-case Greek (\ubalpha-\ubxi). The bold upright symbol \eta has to be treated differently, in this case use \uboldeta.

To use the igsupmath package, you need to have the AMS eurm/b fonts installed.

The AMS packages are supplied from the AMS LATEX distribution. If you already have the AMS LATEX distribution installed, you can safely delete the ams\*.sty files (it is worth checking if the supplied files are newer). If you do not have

**Table 2.** Two-column table. Seasonal and annual SAT trends (°C decade<sup>−1</sup>) in the Arctic

Area			1951-200	5				1976–2005		
	Dec.–Feb.	MarMay	JunAug.	SepNov.	Annual	Dec.–Feb.	MarMay	JunAug.	SepNov.	Annual
Atlantic region	0.09	0.29	0.10	0.09	0.15	0.470	0.60	0.45	0.53	0.59
Siberian region	0.12	0.29	0.04	0.17	0.16	0.08	0.69	0.29	0.59	0.48
Pacific region	0.45	0.46	0.25	0.26	0.35	0.712	1.08	0.27	0.66	0.52
Canadian region	0.16	0.12	0.14	0.30	0.18	0.20	0.52	0.48	0.94	0.53
Baffin Bay region	-0.02	0.10	0.00	0.15	0.02	0.33	0.62	0.51	0.80	0.57
Arctic 1	0.16	0.21	0.12	0.20	0.18	0.36	200.65	0.42	0.74	0.54
Arctic 2	0.22	0.29	0.14	0.14	0.19	0.38	0.60	0.40	0.51	0.45
Arctic 3	0.28	0.31	0.14	0.13	0.21	0.42	40.53	0.41	0.42	0.43
NH (land + ocean)	0.13	0.13	0.10	0.10	0.12	0.27	0.24	0.25	0.25	0.25

```
\begin{table*}[b]% table2, two column, place at bottom of page
\caption{Two-column table. Seasonal and annual SAT trends ($^\circ$C\,decade$^{-1}$) in the Arctic}
\label{seasonal}
% the following illustrates how to align columns on decimal points
% since all numbers are the same width in LaTeX, redefine a ? to take up the width of a number
% do not use if your table contains a genuine ?
\catcode'\?=\active \gdef?{\setbox0=\hbox{0}\hbox to\wd0{}}\%
\setlength\tabcolsep{2.5pt}% column separation reduced from the default 6pt so the table fits the measure
\begin{tabular}{@{}l@{\hspace{20pt}}cccc@{\hspace{20pt}}cccc}\hline
                     & \multicolumn{5}{c}{1951--2005} & \multicolumn{5}{c}{1976--2005}\\[5pt]
Area
                                      & Mar.--May
                                                   & Jun.--Aug. & Sep.--Nov.
                                                    & Jun.--Aug. & Sep.--Nov.
                     & Dec. -- Feb.
                                      & Mar.--May
                                                                                   & Annual\\ \hline
                     & 0.09
                                      & 0.29 & 0.10 & 0.09 & 0.15 & 0.470 & ??0.60 & 0.45 & 0.53 & 0.59\\
Atlantic region
Siberian region
                     & 0.12
                                      & 0.29 & 0.04 & 0.17 & 0.16 & 0.08? & ??0.69 & 0.29 & 0.59 & 0.48\\
Pacific region
                     & 0.45
                                      & 0.46 & 0.25 & 0.26 & 0.35 & 0.712 & ??1.08 & 0.27 & 0.66 & 0.52\\
Canadian region
                     & 0.16
                                      & 0.12 & 0.14 & 0.30 & 0.18 & 0.20? & ??0.52 & 0.48 & 0.94 & 0.53\\
Baffin Bay region
                     &\llap{$-$}0.02 & 0.10 & 0.00 & 0.15 & 0.02 & 0.33? & ??0.62 & 0.51 & 0.80 & 0.57\\
Arctic 1
                     & 0.16
                                      & 0.21 & 0.12 & 0.20 & 0.18 & 0.36? & 200.65 & 0.42 & 0.74 & 0.54\\
Arctic 2
                     & 0.22
                                      & 0.29 & 0.14 & 0.14 & 0.19 & 0.38? & ??0.60 & 0.40 & 0.51 & 0.45\\
Arctic 3
                     & 0.28
                                      & 0.31 & 0.14 & 0.13 & 0.21 & 0.42? & ?40.53 & 0.41 & 0.42 & 0.43\\
NH ($\mathrm{land}
                                      & 0.13 & 0.10 & 0.10 & 0.12 & 0.27? & ??0.24 & 0.25 & 0.25 \\
  + \mathrm{ocean}$) & 0.13
\hline
\end{tabular}
\end{table*}
```

them already, the latest AMS Fonts/AMS LATEX distributions can be found at http://www.ctan.org/.

For upright characters add a u, and for upright bold characters, ub, e.g.

α	\$\ualpha\$	α	\$\ubalpha\$
β	\$\ubeta\$	β	\$\ubbeta\$
γ	\$\ugamma\$	γ	\$\ubgamma\$
δ	\$\udelta\$	δ	\$\ubdelta\$

Authors who do not have this font are requested to key their articles using the commands above. The characters will be substituted automatically by the typesetter.

# Typesetting the partial symbol

The igsupmath package also provides  $\upartial$  and  $\upartial$ .

Provided you have the AMS fonts, you can use the style file igsupmath.sty to typeset the partial symbol, e.g.

 $\eth$  \$\upartial\$  $\eth$  \$\upartial\$

# Marginal notes

Editor! The IGS class file redefines the LATEX command \marginpar.

Help! If you wish to add a marginal note such as the one alongside this text, you would key \marginpar{Editor! Help!}.

Marginal notes will be removed before printing.

#### References

All citations in text should include the author name(s) and the year of publication (e.g. 'Smith, 1999'; 'Smith and Jones, 2000'; 'Smith and others, 2003') and have an entry in the reference list.

References should:

be short;

be complete and accurate;

be arranged in alphabetical order by first author's surname:

include too much rather than too little information;

include works accepted but not published as 'in press';

not include personal communications, unpublished data or manuscript in preparation or submitted for publication, data published on the web (these should be included in the text).

#### Automatic references using BibTfX

To generate automatic references from a bib database, you must first place the following two commands where you would like the references to appear (normally at the end of your paper, before \end{document}

% imposes IGS bibliography style on output

Next, run your paper through LATEX twice, run BIBTEX, then run it through LATEX once again. This series of runs will generate a file called igs2eguide.bbl (in the case of this guide), which will then be included by the first of the two commands above

If you have cited 9 references from the bib database, e.g. (Huybrechts, 1992), (Blatter, 1995; Pfender, 1999), (Sandhäger, 2000), (United States Navy, 1966), (Krimmel, 2000),

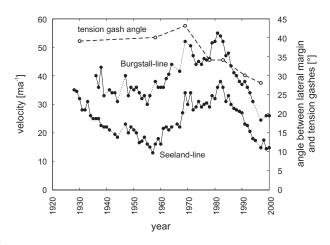


Fig. 1. One-column figures should be  $\leq 86$  mm. Good artwork can make or break a paper.

\begin{figure}%fig01, one column
\centering{\includegraphics[width=80mm]{fig01.eps}}
\caption{One-column figures should be \$\leq\$86\$\,\$mm.
Good artwork can make or break a paper.}
\label{tracks}
\end{figure}

(Johnsen, 1977), (Braun and others, 2001) and (Dahl-Jensen and others, 1993), the output will be just those 9 references and they will appear at the end of the article.

## Citations using natbib commands

Note that the standard natbib style file has been modified to fall into line with IGS style. The modified style file is called igsnatbib.sty (included in this distribution), and works exactly the same as natbib.sty. The default IGS house style is (Blatter, 1995). The following combinations are also available – refer to the natbib documentation if you require any further explanation:

```
(Blatter, 1995) \citep{Blatter95}
(see Blatter, 1995, p. 34)
\citep[see] [p.$\,$34]{Blatter95}
(e.g. Blatter, 1995) \citep[e.g.][]{Blatter95}
(Blatter, 1995, section 2.3)
\citep[section~2.3]{Blatter95}
(Huybrechts, 1992; Blatter, 1995)
```

Huybrechts (1992); Blatter (1995)

\cite{Huybrechts92, Blatter95}

\citep{Huybrechts92, Blatter95}

Braun and others 2001 \citealt{Braun01}
Blatter (1995) \cite{Blatter95}
Huybrechts, 1992 \citealp{Huybrechts92}
Huybrechts \citeauthor{Huybrechts92}
(1992) \citeyearpar{Huybrechts92}
1992 \citeyear{Huybrechts92}

# Manual references

Authors not using the bibligraphy style file igs.bst can produce the same output at the end of the guide by typing the references along the following lines:

\begin{thebibliography}{9}
\expandafter\ifx\csname natexlab\endcsname\relax
\def\natexlab#1{#1}\fi

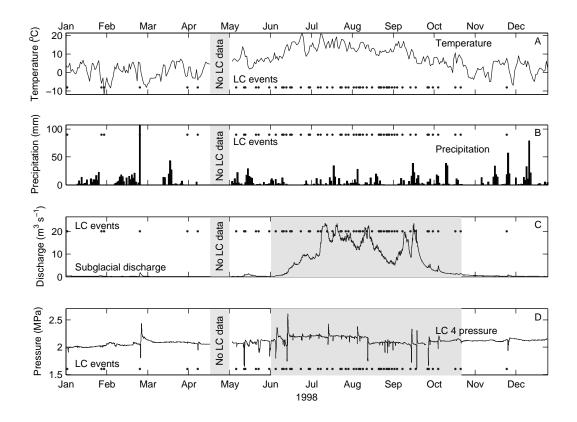


Fig. 2. Two-column figures should be  $\leq$ 178 mm. SSA reconstructed components found by projecting the SSA filters found using the whole 2000 traces in Figure 4, on trace number 1, ordered by magnitude of variance accounted for in the radar trace.

\expandafter\ifx\csname selectlanguage\endcsname\relax
\def\selectlanguage#1{\relax}\fi

\bibitem[Blatter, 1995]{Blatter95}
Blatter, H., 1995. Velocity and stress fields in
grounded glaciers: a simple algorithm for
including deviatoric stress gradients,
{\em J.~Glaciol.\/}, {\bf 41}(138), 333--344.

\bibitem[Braun and others, 2001]{Braun01}
Braun, M., {J.C.} {Sim\~{o}es}, S.~Vogt,
 {U.F.} Bremer, H.~Saurer and {F.E.} Aquino,
 2001. A new satellite image map of King George
 Island (South Shetland Islands, Antarctica),
 {\em Polarforschung\/}, {\bf 71}(1/2), 47--48.

\bibitem[Dahl-Jensen and others, 1993]{dahl-jensen93}
Dahl-Jensen, D., S.J. Johnsen, C.U. Hammer,
H.B. Clausen and J.~Jouzel, 1993. Past
accumulation rates derived from observed annual
layers in the {GRIP} ice core from {S}ummit,
central {G}reenland., Peltier, W.R., ed., Ice
in the Climate System, Springer-Verlag, Berlin
Heidelberg, Germany, 517--532.

\bibitem[Huybrechts, 1992]{Huybrechts92}
Huybrechts, P., 1992. The Antarctic ice sheet and
environmental change: a three-dimensional
modelling study, vol.~99 of {\em Berichte zur
Polarforschung\/}, Alfred-Wegener-Institut
Bremerhaven.

\bibitem[Johnsen, 1977]{johnsen77}
Johnsen, S.J., 1977. Stable isotope homogenization
 of polar firn and ice, Proceedings of the
 Grenoble Symposium on {I}sotopes and
 {I}mpurities in {S}now and {I}ce, Grenoble,
 Aug./Sep. 1975, IAHS Publ., no. 118, 210--219.

\bibitem[Krimmel, 2000]{Krimmel:2000a}
Krimmel, R.M., 2000. {Water, ice, and
 meteorological measurements at South Cascade
 Glacier, Washington, 1986--1991 balance years},
 {\em {USGS Water-Resourc. Invest. Rep.
 00-4006}\/}, 77 p.

\bibitem[Pfender, 1999]{Pfender99}
Pfender, M., 1999. Topographie und Glazialhydrologie

von King George Island, Antarktis, (Master's
thesis, Westf\"{a}lische Wilhelms-Universit\"{a}t
M\"{u}nster).

\bibitem[Sand\-h\"ager, 2000]{Henner00}
Sand\-h\"ager, H., 2000. Quantifizierung
 eisdynamischer und massenhaushaltsrelevanter
Basisgr\"{o}\ss en eines antarktischen
 Inlandeis-Schelfeis-Systems unter Einsatz eines
 numerischen Flie\ss modells, (PhD thesis,
 Westf\"{a}lische Wilhelms-Universit\"{a}t
 M\"{u}nster).

\bibitem[{United States Navy}, 1966]{USN:1966}
{United States Navy}, 1966. {Selected level
 temperatures and dew points for the Northern
 Hemisphere}, {Washington, DC, US Navy: Chief of
 Naval Operations}, {(Document NAVAIR 50-1C-52)}.

\end{thebibliography}

#### ACKNOWLEDGEMENTS

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#### REFERENCES

- Blatter, H., 1995. Velocity and stress fields in grounded glaciers: a simple algorithm for including deviatoric stress gradients, J. Glaciol., 41(138), 333–344.
- Braun, M., J.C. Simões, S. Vogt, U.F. Bremer, H. Saurer and F.E. Aquino, 2001. A new satellite image map of King George Island (South Shetland Islands, Antarctica), Polarforschung, 71(1/2), 47–48
- Dahl-Jensen, D., S.J. Johnsen, C.U. Hammer, H.B. Clausen and J. Jouzel, 1993. Past accumulation rates derived from observed annual layers in the GRIP ice core from Summit, central Greenland., Peltier, W.R., ed., Ice in the Climate System, Springer-Verlag, Berlin Heidelberg, Germany, 517–532.
- Huybrechts, P., 1992. The Antarctic ice sheet and environmental change: a three-dimensional modelling study, vol. 99 of *Berichte zur Polarforschung*, Alfred-Wegener-Institut Bremerhaven.
- Johnsen, S.J., 1977. Stable isotope homogenization of polar firn and ice, Proceedings of the Grenoble Symposium on Isotopes and Impurities in Snow and Ice, Grenoble, Aug./Sep. 1975, IAHS Publ., no. 118, 210–219.
- Krimmel, R.M., 2000. Water, ice, and meteorological measurements at South Cascade Glacier, Washington, 1986–1991 balance years, USGS Water-Resourc. Invest. Rep. 00-4006, 77 p.
- Pfender, M., 1999. Topographie und Glazialhydrologie von King George Island, Antarktis, (Master's thesis, Westfälische Wilhelms-Universität Münster).
- Sandhäger, H., 2000. Quantifizierung eisdynamischer und massenhaushaltsrelevanter Basisgrößen eines antarktischen Inlandeis-Schelfeis-Systems unter Einsatz eines numerischen Fließmodells, (PhD thesis, Westfälische Wilhelms-Universität Münster).
- United States Navy, 1966. Selected level temperatures and dew points for the Northern Hemisphere, Washington, DC, US Navy: Chief of Naval Operations, (Document NAVAIR 50-1C-52).

#### **APPENDIX**

Start an appendix by typing \appendix\section{Appendix}. Appendices appear after the references. Equation numbers automatically start again with (A1).

$$2\eta\kappa \frac{\partial \bar{u}}{\partial t} + \rho_{\rm r}g\bar{u} + D\kappa^4\bar{u} = \bar{\sigma}_{zz}.$$
 (A1)