

International Journal of Geographical Information Science
Vol. 00, No. 00, Month 2009, 1–21

GUIDE

International Journal of Geographical Information Science – L^AT_EX 2_ε style guide for authors (Style 2 + References Style V)

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(v2.3 released April 2009)

This guide is for authors who are preparing papers for the Taylor & Francis journal *International Journal of Geographical Information Science* (*tGIS*) using the L^AT_EX 2_ε document preparation system and the Class file `tGIS2e.cls`, which is available via the journal homepage on the Taylor & Francis website (see Section 8). Authors planning to submit their papers in L^AT_EX 2_ε are advised to use `tGIS2e.cls` as early as possible in the creation of their files.

Keywords: Submission instructions; Source file coding; Environments; References citation; Fonts (**Authors: Please provide two to five keywords taken from terms used in your manuscript**)

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Please note that the index following the abstract in this guide is provided for information only. An index is not required in submitted papers.

1. Introduction

All submissions of manuscripts for possible publication in *International Journal of Geographical Information Science (tGIS)* should be made online via the journal's Manuscript Central site (<http://mc.manuscriptcentral.com/ijgis>). New users should first create an account. Once logged on to the site, submissions should be made via the Author Centre. Online user guides and access to a helpdesk are available on this website.

tGIS accepts papers in any standard format, including Microsoft® Word, PostScript and PDF. Files submitted in formats other than PDF will automatically be converted to a PDF for the review process. $\text{\LaTeX} 2_{\epsilon}$ files should be converted to PDF prior to submission because Manuscript Central is not able to convert $\text{\LaTeX} 2_{\epsilon}$ files into PDFs directly. This journal does not accept Microsoft Word 2007 documents. Please use Word's 'Save As' option to save your document as an older (.doc) file type. For the submission of manuscripts created using $\text{\LaTeX} 2_{\epsilon}$ see Section 1.2.

The layout design for *tGIS* has been implemented as a $\text{\LaTeX} 2_{\epsilon}$ Class file. The *tGIS* Class file is based on `article.cls`. Commands that differ from the standard $\text{\LaTeX} 2_{\epsilon}$ interface, or which are provided in addition to the standard interface, are explained in this guide. This guide is not a substitute for the $\text{\LaTeX} 2_{\epsilon}$ manual itself.

This guide can be used as a template for composing an article for submission by cut-

ting, pasting, inserting and deleting text as appropriate, using the LaTeX environments provided (e.g. `\begin{equation}`, `\begin{corollary}`).

1.1. *The tGIS document style*

The use of LaTeX 2_ε document styles allows a simple change of style (or style option) to transform the appearance of your document. The tGIS2e Class file preserves the standard LaTeX 2_ε interface such that any document that can be produced using the standard LaTeX 2_ε `article` style can also be produced with the tGIS style. However, the measure (or width of text) is narrower than the default for `article`, therefore line breaks will change and long equations may need re-formatting.

When your article appears in the print edition of the *gPAV* journal (and exactly reproduced in the PDF version online), it will have been typeset in Monotype Times. As most authors do not own this font, it is inevitable that the page make-up will change with the change of font. For this reason, we ask authors to ignore details such as slightly long lines, page stretching, or figures falling out of synchronization with their citations in the text, because these details will be dealt with during proofing.

1.2. *Submission of LaTeX 2_ε articles to the journal*

All submissions of manuscripts for possible publication should be made online via the journal's Manuscript Central site (<http://mc.manuscriptcentral.com/ijgis>). New users should first create an account. Once logged on to the site, submissions should be made via the Author Centre. Online user guides and access to a helpdesk are available on this website. LaTeX 2_ε files should be converted to PDF prior to submission because Manuscript Central is not able to convert LaTeX 2_ε files into PDFs directly. The PDF should be uploaded together with the LaTeX 2_ε source files and any graphics files.

General Instructions for Authors may be found at

(<http://www.tandf.co.uk/journals/authors/tgisauth.asp>).

Only 'open-source' LaTeX 2_ε should be used, not proprietary systems such as TCI LaTeX or Scientific WorkPlace. Similarly, Class files such as REVTeX4 that produce a document in the style of a different publisher and journal should not be used for preference.

Appropriate gaps should be left for figures, of which original versions and copies should also be supplied. Authors should ensure that their figures are suitable (in terms of lettering size, etc.) for the reductions they intend.

Authors who wish to incorporate Encapsulated PostScript artwork directly in their articles can do so by using Tomas Rokicki's EPSF macros (which are supplied with the DVIPS PostScript driver). See Section 2.1, which also demonstrates how to treat landscape pages. Please remember to supply any additional figure macros you use with your article in the preamble before `\begin{document}`. Authors should not attempt to use implementation-specific `\special`'s directly.

Ensure that any author-defined macros are gathered together in the source file, just before the `\begin{document}` command.

Please note that, if serious problems are encountered with the coding of a paper (missing author-defined macros, for example), it may prove necessary to divert the paper to conventional typesetting, i.e. it will be re-keyed.

2. Using the *tGIS* Class file

If the file `tGIS2e.cls` is not already in the appropriate system directory for L^AT_EX 2_ε files, either arrange for it to be put there, or copy it to your working folder. The *tGIS* document style is implemented as a complete document style, *not* a document style option. In order to use the *tGIS* style, replace ‘`article`’ by ‘`tGIS2e`’ in the `\documentclass` command at the beginning of your document:

```
\documentclass{article}
```

is replaced by

```
\documentclass{tGIS2e}
```

In general, the following standard document style options should *not* be used with the *tGIS* style:

- (1) `10pt`, `11pt`, `12pt` – unavailable;
- (2) `oneside` (no associated style file) – `oneside` is the default;
- (3) `leqno` and `titlepage` – should not be used;
- (4) `singlecolumn` – is not necessary as it is the default style.

2.1. *Landscape pages*

If a table or illustration is too wide to fit the standard measure, it must be turned, with its caption, through 90° anticlockwise. Landscape illustrations and/or tables can be produced directly using the *tGIS2e* style file using `\usepackage{rotating}` after `\documentclass{tGIS2e}`. The following commands can be used to produce such pages.

```
\setcounter{figure}{2}
\begin{sidewaysfigure}
\centerline{\epsfbox{fig1.eps}}
\caption{This is an example of figure caption.}
\label{landfig}
\end{sidewaysfigure}
```

```
\setcounter{table}{0}
\begin{sidewaystable}
\tbl{The Largest Optical Telescopes.}
\begin{tabular}{@{}lccccll}
.
.
.
\end{tabular}\label{tab1}
\end{sidewaystable}
```

Before any float environment, use the `\setcounter` command as above to fix the numbering of the caption. Subsequent captions will then be automatically renumbered accordingly.

3. Additional features

In addition to all the standard $\text{\LaTeX}2_{\epsilon}$ design elements, *tGIS* style includes a separate command for specifying short versions of the authors' names and the journal title for running headlines on the left-hand (verso) and right-hand (recto) pages, respectively (see Section 4.4). In general, once you have used this additional `tGIS2e.cls` feature in your document, do not process it with a standard $\text{\LaTeX}2_{\epsilon}$ style file.

3.1. Footnotes to article titles and authors' names

On the title page, the `\thanks` control sequence may be used to produce a footnote to either the title or authors' names.

Footnote symbols should be used in the order: † (coded as `\dagger`), ‡ (`\ddagger`), § (`\S`), ¶ (`\P`), || (`\l`), †† (`\dagger\dagger`), ‡‡ (`\ddagger\ddagger`), §§ (`\S\S`), ¶¶ (`\P\P`), |||| (`\l\l\l\l`).

Note that footnotes to the text will automatically be assigned the superscript symbols 1, 2, 3,... by the Class file, beginning afresh on each page.¹

The title, author(s) and affiliation(s) should be followed by the `\maketitle` command.

3.2. Abstracts

At the beginning of your article, the title should be generated in the usual way using the `\maketitle` command. Immediately following the title you should include an abstract. The abstract should be enclosed within an `abstract` environment. For example, the titles for this guide were produced by the following source code:

```
\title{{\itshape International Journal of Geographical Information %
Science} -- \LaTeXe\ style guide for authors\newline (Style 2 + %
References Style V)}

\author{Taylor \& Francis${}^{\ast}$\thanks{{}^{\ast}$Corresponding %
author. Email: latex.helpdesk@tandf.co.uk \vspace{6pt}} and I.T. %
Consultant${}^{\b}$\vspace{6pt} ${}^{\a}$\em{4 Park Square, Milton Park, %
Abingdon, UK}}; ${}^{\b}$\em{Institut f\"{u}r Informatik, %
Albert-Ludwigs-Universit\"{a}t, Freiburg, Germany}}\vspace{6pt}%
\received{v2.3 released April 2009} }

\maketitle
\begin{abstract}
This guide is for authors who are preparing papers for the Taylor \& %
Francis journal {\em International Journal of Geographical Information %
Science} ({\it tGIS}\,) using the \LaTeXe\ document preparation system %
and the Class file {\tt tGIS2e.cls}, which is available via the journal %
```

¹These symbols will be changed to the style of the journal by the typesetter during preparation of your proofs.

```
homepage on the Taylor & Francis website (see Section~\ref{FTP}). %
Authors planning to submit their papers in \LaTeXe\ are advised to %
use {\tt tGIS2e.cls} as early as possible in the creation of their %
files. \end{abstract}
```

(Please note that the percentage signs at the ends of lines that quote source code in this document are not part of the coding but have been inserted to achieve line wrapping at the appropriate points.)

3.3. Lists

The *tGIS* style provides numbered and unnumbered lists using the `enumerate` environment and bulleted lists using the `itemize` environment.

The enumerated list numbers each list item with arabic numerals:

- (1) first item
- (2) second item
- (3) third item

Alternative numbering can be achieved by an argument in square brackets, e.g. `\item[(i)] first item`. Unnumbered lists are also provided using the `enumerate` environment. For example,

```
First unnumbered indented item without label.
Second unnumbered item.
Third unnumbered item.
```

was produced by:

```
\begin{enumerate}
  \item[] First unnumbered indented item...
  \item[] Second unnumbered item.
  \item[] Third unnumbered item.
\end{enumerate}
```

Bulleted lists are provided using the `itemize` environment. For example,

- First bulleted item
- Second bulleted item
- Third bulleted item

was produced by:

```
\begin{itemize}
  \item First bulleted item
  \item Second bulleted item
  \item Third bulleted item
\end{itemize}
```

4. Some guidelines for using standard features

The following notes may help you achieve the best effects with the `tGIS2e Class` file.

4.1. Sections

LaTeX 2_ε provides five levels of section headings and they are all defined in the tGIS2e Class file:

- (A) `\section`
- (B) `\subsection`
- (C) `\subsubsection`
- (D) `\paragraph`
- (E) `\subparagraph`

Numbering is automatically generated for section, subsection, subsubsection and paragraph headings. If you need additional text styles in the headings, see the examples in Section 5.

4.2. Illustrations (figures)

The *tGIS* style will cope with most positioning of your illustrations and you should not normally use the optional positional qualifiers of the `figure` environment, which would override these decisions. See ‘Instructions for Authors’ in the journal’s homepage on the Taylor & Francis website for how to submit artwork. Figure captions should be below the figure itself, therefore the `\caption` command should appear after the figure. For example, Figure 1 with caption and sub-captions is produced using the following commands:

```
\begin{figure}
\begin{center}
\vspace{36pt}
\begin{minipage}{100mm}
\subfigure[] {
\resizebox*{5cm}{!}{\includegraphics{senu_gr1.eps}}}%
\subfigure[] {
\resizebox*{5cm}{!}{\includegraphics{senu_gr2.eps}}}%
\caption{\label{fig2} Example of a two-part figure with individual %
sub-captions showing that all lines of figure captions range left.}%
\label{sample-figure}
\end{minipage}
\end{center}
\end{figure}
```

The control sequences `\epsfig{}`, `\subfigure{}` and `\includegraphics{}` require `epsfig.sty`, `subfigure.sty` and `graphicx.sty`. These are called by the Class file `tGIS2e.cls` and are included with the LaTeX package for this journal for convenience.

To ensure that figures are correctly numbered automatically, the `\label{}` command should be inserted just after `\caption{}`

4.3. Tables

The *tGIS* style will cope with most positioning of your tables and you should not normally use the optional positional qualifiers of the `table` environment, which would override these decisions. The table caption appears above the body of the table in *tGIS* style,

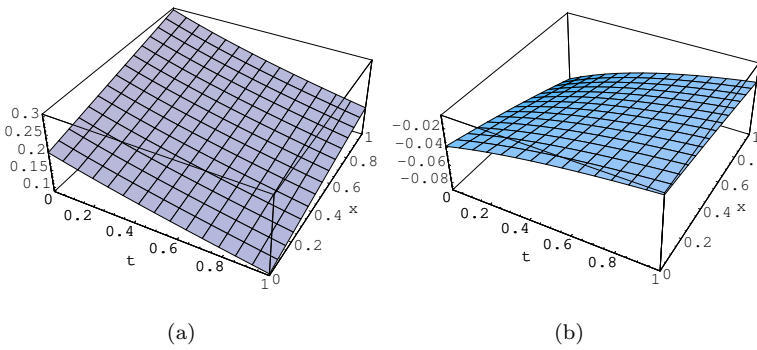


Figure 1. Example of a two-part figure with individual sub-captions showing that all lines of figure captions range left.

Table 1. Radio-band beaming model parameters for FSRQs and BL Lacs.

Class ^a	γ_1	γ_2^b	$\langle \gamma \rangle$	G	$ f $	θ_c
BL Lacs	5	36	7	-4.0	1.0×10^{-2}	10°
FSRQs	5	40	11	-2.3	0.5×10^{-2}	14°

^aThis footnote shows what footnote symbols to use.
^bThis footnote shows the text turning over when necessary.

therefore the `\tbl` command should appear before the body of the table.

The `tabular` environment can be used to produce tables with single thick and thin horizontal rules, which are allowed, if desired. Thick rules should be used at the head and foot only and thin rules elsewhere.

Commands to redefine quantities such as `\arraystretch` should be omitted. For example, Table 1 is produced using the following commands. Note that `\rm` will produce a roman character in math mode. There are also `\bf` and `\it`, which produce bold face and text italic in math mode.

```

\begin{table}
\vspace{36pt}
\tbl{Radio-band beaming model parameters
      for {FSRQs and BL Lacs.}}
{\begin{tabular}{@{}lcccccc}\toprule
Classa &
& \gamma_1 & & \gamma_2b & & \langle \gamma \rangle & & G & & |f| & & \theta_c \\
\bottomrule
BL Lacs & 5 & 36 & 7 & -4.0 &  $1.0 \times 10^{-2}$  &  $10^\circ$  \\
FSRQs & 5 & 40 & 11 & -2.3 &  $0.5 \times 10^{-2}$  &  $14^\circ$  \\
\bottomrule
\end{tabular}}
\end{table}

```



```

        & $1.0\times 10^{-2}$ & 10$\^{\circ}$ \\
FSRQs & 5 & 40 & 11 & $-2.3$ \\
        & $0.5\times 10^{-2}$ & 14$\^{\circ}$ \\
\botrule
\end{tabular}}
\tabnote{$^{\rm a}$}This footnote shows what footnote symbols to
use.\$^{\rm b}$This footnote shows the text turning over when %
necessary.}\label{symbols}
\end{table}

```

To ensure that tables are correctly numbered automatically, the `\label{}` command should be inserted just before `\end{table}`.

4.4. Running headlines

As described above, the title of the journal or the author's name (or authors' names) are used as running headlines at the top of every page. The headline on left-hand pages can list up to two names; for more than two use *et al.* The `\pagestyle` and `\thispagestyle` commands should *not* be used.

4.5. Maths environments

The *tGIS* style provides for the following maths environments.

Lemma 4.1: *More recent algorithms for solving the semidefinite programming relaxation are particularly efficient, because they explore the structure of the MAX-CUT.*

Theorem 4.2: *More recent algorithms for solving the semidefinite programming relaxation are particularly efficient, because they explore the structure of the MAX-CUT.*

Corollary 4.3: *More recent algorithms for solving the semidefinite programming relaxation are particularly efficient, because they explore the structure of the MAX-CUT.*

Proposition 4.4: *More recent algorithms for solving the semidefinite programming relaxation are particularly efficient, because they explore the structure of the MAX-CUT.*

Proof: More recent algorithms for solving the semidefinite programming relaxation are particularly efficient, because they explore the structure of the MAX-CUT. \square

Remark 1: More recent algorithms for solving the semidefinite programming relaxation are particularly efficient, because they explore the structure of the MAX-CUT problem.

Algorithm 1: More recent algorithms for solving the semidefinite programming relaxation are particularly efficient, because they explore the structure of the MAX-CUT problem.

These were produced by:

```

\begin{lemma}
More recent algorithms for solving the semidefinite
programming relaxation are particularly efficient,
because they explore the structure of the MAX-CUT.
\end{lemma}

```

```

\begin{theorem}
...
\end{theorem}

\begin{corollary}
...
\end{corollary}

\begin{proposition}
...
\end{proposition}

\begin{proof}
...
\end{proof}

\begin{remark}
...
\end{remark}

\begin{algorithm}
...
\end{algorithm}

```

4.6. *Typesetting mathematics*

4.6.1. *Displayed mathematics*

The *tGIS* style will set displayed mathematics centred on the measure without equation numbers, provided that you use the L^AT_EX 2_ε standard control sequences open (\lbrack) and close (\rbrack) square brackets as delimiters. The equation

$$\sum_{i=1}^p \lambda_i = \text{trace}(\mathbf{S}) \quad i \in \mathbb{R}$$

was typeset in the *tGIS* style using the commands

```

\lbrack
  \sum_{i=1}^p \lambda_i = {\rm trace}({\textrm{\bf S}})\qqquad
  i\in {\mathbb R}
\rbrack.

```

For those of your equations that you wish to be automatically numbered sequentially throughout the text, use the `equation` environment, e.g.

$$\sum_{i=1}^p \lambda_i = \text{trace}(\mathbf{S}) \quad i \in \mathbb{R} \quad (1)$$

was typeset using the commands

```
\begin{equation}
\sum_{i=1}^p \lambda_i = {\rm trace}({\texttrm{\bf S}})quad
i\in {\mathbb R}
\end{equation}
```

Part numbers for sets of equations may be generated using the `subequations` environment, e.g.

$$\varepsilon \rho w_{tt}(s, t) = N[w_s(s, t), w_{st}(s, t)]_s, \quad (2a)$$

$$w_{tt}(1, t) + N[w_s(1, t), w_{st}(1, t)] = 0, \quad (2b)$$

which was generated using the control sequences

```
\begin{subequations} \label{subeqnexample}
\begin{equation}
\varepsilon \rho w_{tt}(s, t)
=
N[w_s(s, t), w_{st}(s, t)]_s,
\label{subeqnpart}
\end{equation}
\begin{equation}
w_{tt}(1, t) + N[w_s(1, t), w_{st}(1, t)] = 0,
\end{equation}
\end{subequations}
```

This is made possible by the package `subeqn`, which is called by the `Class` file. If you put the `\label{}` just after the `\begin{subequations}` line, references will be to the collection of equations, ‘(2)’ in the example above. Or, like the example code above, you can reference each equation individually – e.g. ‘(2a)’.

4.6.2. Bold math italic symbols

To get bold math italic you can use `\bm`, which works for all sizes, e.g.

```
\sffamily
\begin{equation}
{\rm d}({\bm s}_{t_{{\bm u}}}) = \langle {\bm \alpha}({\sf{\textbf L}}) \rangle \%
[RM({\bm X}_y + {\bm s}_t) - RM({\bm x}_y)]^2 \rangle.
\end{equation}
\normalfont
```

produces

$$d(\mathbf{s}_{t_u}) = \langle \boldsymbol{\alpha}(\mathbf{L})[RM(\mathbf{X}_y + \mathbf{s}_t) - RM(\mathbf{x}_y)]^2 \rangle. \quad (3)$$

Note that subscript, superscript, subscript to subscript, etc. sizes will take care of themselves and are italic, not bold, unless coded individually. `\bm` produces the same effect as `\boldmath`. `\sffamily...\normalfont` allows upright sans serif fonts to be created in math mode by using the control sequence `'\sf'`.

4.6.3. Bold Greek

Bold lowercase as well as uppercase Greek characters can be obtained by `\{\bm \gamma\}`, which gives $\boldsymbol{\gamma}$, and `\{\bm \Gamma\}`, which gives $\boldsymbol{\Gamma}$.

4.6.4. Upright lowercase Greek characters and the upright partial derivative sign

Upright lowercase Greek characters can be obtained with the Class file by inserting the letter 'u' in the control code for the character, e.g. `\umu` and `\upi` produce μ (used, for example, in the symbol for the unit microns – μm) and π (the ratio of the circumference to the diameter of a circle). Similarly, the control code for the upright partial derivative ∂ is `\upartial`.

4.7. Acknowledgements

This unnumbered section, e.g. `\section*{Acknowledgement(s)}`, should be used for thanks, grant details, etc. and placed before any Notes or References sections.

4.8. Notes

This unnumbered section, e.g. `\section*{Note(s)}`, may be placed before any References section.

4.9. Appendices

Appendices should be set after the references, beginning with the command `\appendices` followed by the command `\section` for each appendix title, e.g.

```
\appendices
\section{This is the title of the first appendix}
\section{This is the title of the second appendix}
```

produces

Appendix A. This is the title of the first appendix
Appendix B. This is the title of the second appendix

Subsections, equations, theorems, figures, tables, etc. within appendices will then be automatically numbered as appropriate.

4.10. References

4.10.1. References cited in the text

References should be cited in the text in author–date (Harvard) style – e.g. ‘(Smith 1985, Jones 1986, Trevor and Atkins 1987, Bloggs *et al.* 2001)’ or ‘... see Smith (1985, p. 75) ...’ (note that these references have been cited in chronological order and ‘*et al.*’ has been used where a reference has three or more authors). If two or more references by the same author(s) published in the same year are cited, distinguish these by adding a,b,c, etc. after the year, e.g. ‘Johnson (1994a) discussed ...’ If a source is quoted in another source, cite both in the text, but only list the work you read in the bibliography: ‘A study by Smith (1960 cited Jones 1994) showed that ...’

References should be listed in the references section at the end of the main text in alphabetical order, then chronologically (earliest first), with both issue numbers and full page ranges for journals where appropriate. If a reference has four or more authors, quote only the first followed by ‘*et al.*’ A smaller font than in the main body text should be used, with a hanging indent. Each bibliographical entry has a key, which is assigned by the author and used to refer to that entry in the text. In this document, the key `ev94` in the citation form `\citep{ev94}` produces ‘(Evans 1994)’, and the keys `ev94`, `GloRib51`, `PeaEtA176` and `Holl104` in the citation form `\citep{ev94,PeaEtA176,Holl104,GloRib51}` produce ‘(Evans 1994, Pierce *et al.* 1976, Holland 2004, Glover and Ribeiro 1951)’. The appropriate citation style in the text for different situations can be produced by `\citet{fzf88}` for ‘French (1988)’, `\citealt{Kor95}` for ‘Korb 1995’ and `\citet{fwp02,cww86,cwm73,fzf88,Une93}` and `\citet{hk97}` for ‘Patel (2002), Cutler *et al.* (1986), Misner (1973), French (1988), Unesco (1993) and Kern (1997)’. Optional notes may be included at the beginning and end of a citation by the use of square brackets, e.g. `\citep[see][and references therein]{Agu95}` produces ‘(see Agutter 1995, and references therein)’. Citation of the year alone may be produced by `\citeyear{PeaEtA176}`, i.e. ‘1976’, or `\citeyearpar{PeaEtA176}`, i.e. ‘(1976)’.

4.10.2. The list of references

The following listing shows some references prepared in the style of the journal; note that references with four or more authors begin with the first-named author’s initials and surname followed by ‘*et al.*’; references having the same author(s) are listed chronologically, beginning with the earliest.

References

- Agutter, A.J., 1995. The linguistic significance of current British slang. Thesis (PhD). Edinburgh University, UK.
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- Patel, F.W., 2002. *Banking technology in an age of cynicism*. Monographs on technical aspects Vol. XIII. New York: Dover.
- Pierce, I.F., et al., 1976. A model of output, employment, wages and prices in the UK. In: M. Laguna and J.L. Gonz ales-Velarde, eds. *Computing tools for modeling, optimization and simulation: interfaces in computer science and operations research*. 2nd ed. Boston, MA: Cambridge University Press, 1–24.

This list was produced by:

```
\begin{thebibliography}
```

```
\bibitem[\protect\citeauthoryear{Agutter}{1995}]{Agu95}
```

```
Agutter, A.J., 1995. The linguistic significance of current British %
slang. Thesis (PhD). Edinburgh University, UK.
```

```
\bibitem[\protect\citeauthoryear{Cutler {\itshape{et~al.}}}{1986}]{%
{cww86} Cutler, T., Williams, K., and Williams, J., 1986. {\itshape %
Keynes, Beveridge and beyond}. 3rd ed. Twentieth century political %
economics Vol. II. London: Routledge.
```

```
\bibitem[\protect\citeauthoryear{Evans}{1994}]{ev94} Evans, W.A., %
1994. Approaches to intelligent information retrieval. {\itshape %
Information Processing and Management}, 7 (2), 147--168.
```

```
\bibitem[\protect\citeauthoryear{French}{1988}]{fzf88} French, F., %
1988. English title of a chapter in the translation of a book in a %
foreign language. {\itshape{In}}: {\itshape Title of a book in another %
language (Quoted in that language)} [{\itshape English translation}], %
translated by P. Smith. New York: Dover (original work published 1923).
```

```
\bibitem[\protect\citeauthoryear{Glover and Ribeiro}{1951}]{GloRib51}
Glover, F. and Ribeiro, C.C., eds, 1951. {\itshape
Lessons of the British war economy}. 2nd ed. Westport, CT: Greenwood %
Press, 1--24.
```

```
\bibitem[\protect\citeauthoryear{Holland}{2004}]{Holl04} Holland, M., %
2004. {\itshape Guide to citing Internet sources} [online]. Poole, UK: %
Bournemouth University. Available from: http://www.bournemouth.ac.uk/%
library/using/guide\_to\_citing\_internet\_sourc.html %
[Accessed 4 November 2004].
```

```
\bibitem[\protect\citeauthoryear{Kern}{1997}]{hk97} Kern, H., 1997. %
The resurgent Japanese economy and a Japan--United States free trade %
agreement. {\itshape {In}}: C.~Lambert and G.~Holst, eds. {\itshape %
4th international conference on the restructuring of the economic and %
political system in Japan}, Milan, Italy, 21--25 May 1996. Singapore: %
World Scientific, 147--156.
```

```
\bibitem[\protect\citeauthoryear{Korb}{1995}]{Kor95} Korb, K.B., 1995. %
Persons and things: book review of Bringsjord on robot-consciousness. %
{\itshape Psycology} [online], 6 (15). Available from: http://%
psycprints.ecs.soton.ac.uk/archive/00000462/ [Accessed 20 May 2004].
```

```
\bibitem[\protect\citeauthoryear{Misner}{1973}]{cwm73} Misner, C.W., %
ed., 1973. Efficient algorithms for layer assignment problems. %
{\itshape{In}}: {\itshape Gravitation in a collapsing Universe}. %
San Francisco, CA: Freeman.
```

```
\bibitem[\protect\citeauthoryear{Patel}{2002}]{fwp02} Patel, F.W., %
2002. {\itshape Banking technology in an age of cynicism}. Monographs %
on technical aspects Vol. XIII. New York: Dover.
```

```
\bibitem[\protect\citeauthoryear{Pierce {\itshape{et~al.}}}{1976}]{%
{PeaEtAl76} Pierce, I.F., {\itshape{et al.}}, 1976. A model of %
output, employment, wages and prices in the UK. {\itshape{In}}: %
M.~Laguna and J.L. Gonz\`{a}les-Velarde, eds. {\itshape Computing %
tools for modeling, optimization and simulation: interfaces in %
computer science and operations research}. 2nd ed. Boston, MA: %
Cambridge University Press, 1--24.
```

```
\end{thebibliography}
```

Each entry takes the form:

```
\bibitem{key} Bibliography entry
```

where `key` is the tag that is to be used as an argument for the `\citep{}`, `\citet{}` and `\citealt{}` commands. `Bibliography entry` should be the material that is to appear in the bibliography, suitably formatted.

Instead of including ‘thebibliography’ environment in the main source file of their article, authors may include the lines

```
\bibliographystyle{tGIS}
\bibliography{tGISguide}
```

where the references list should appear, where tGIS.bst is the BiBTeX style file for this journal and tGISguide.bib is the database of bibliographic details for the references section (both included with the tGIS LaTeX style guide package). tGISguide.bib can be used as a template for creating your database, which can be used with any of your future papers. The L^AT_EX 2_ε source file of a particular paper will extract from the .bib file only those references that are cited in that paper and listed in the references section of it. Thus

```
\bibliographystyle{tGIS}
\bibliography{tGISguide}
```

produces:

References

- Agutter, A.J., 1995. The linguistic significance of current British slang. Thesis (PhD). Edinburgh University, UK.
- Cutler, T., Williams, K., and Williams, J., 1986. *Keynes, Beveridge and beyond*. 3rd ed. Twentieth century political economics Vol. II. London: Routledge.
- Evans, W.A., 1994. Approaches to intelligent information retrieval. *Information Processing and Management*, 7 (2), 147–168.
- French, F., 1988. English title of a chapter in the translation of a book in a foreign language. *In: Title of a book in another language (Quoted in that language) [English translation]*, translated by P. Smith. New York: Dover (original work published 1923).
- Glover, F. and Ribeiro, C.C., eds., 1951. *Lessons of the British war economy*. 2nd ed. Westport, CT: Greenwood Press, 1–24.
- Holland, M., 2004. *Guide to citing Internet sources* [online]. Poole, UK: Bournemouth University. Available from: http://www.bournemouth.ac.uk/library/using/guide_to_citing_internet_sourc.html [Accessed 4 November 2004].
- Kern, H., 1997. The resurgent Japanese economy and a Japan–United States free trade agreement. *In: C. Lambert and G. Holst, eds. 4th international conference on the restructuring of the economic and political system in Japan*, Milan, Italy, 21–25 May 1996. Singapore: World Scientific, 147–156.
- Korb, K.B., 1995. Persons and things: book review of Bringsjord on robot-consciousness. *Psycoloquy* [online], 6 (15). Available from: <http://psycprints.ecs.soton.ac.uk/archive/00000462/> [Accessed 20 May 2004].
- Misner, C.W., ed., 1973. Efficient algorithms for layer assignment problems. *In: Gravitation in a collapsing Universe*. San Francisco, CA: Freeman.
- Patel, F.W., 2002. *Banking technology in an age of cynicism*. Monographs on technical aspects Vol. XIII. New York: Dover.
- Pierce, I.F., et al., 1976. A model of output, employment, wages and prices in the UK. *In: M. Laguna and J.L. González-Velarde, eds. Computing tools for modeling, optimization and simulation: interfaces in computer science and operations research*. 2nd ed. Boston, MA: Cambridge University Press, 1–24.
- Unesco, 1993. *General information programme*. Technical report PGI-93/WS/22, Unesco, Paris.

Note that only 12 of the 13 bibitems in the .bib file have appeared in the above references

Table 2. *tGIS* macros.

<code>\markboth{short author(s) list}{journal title}</code>	short author(s) list and journal title used in running heads (verso/recto, resp.)
<code>\thanks{title-page footnote to article title or author}</code>	e.g. ‘Corresponding author. E-mail: A.N. Author@uiowa.edu’
<code>\begin{abstract}...\end{abstract}</code>	for abstract on titlepage
<code>\bm{math and symbols}</code>	bold italic <i>math and symbols</i>
<code>\bi{text}</code>	bold italic <i>text</i>
<code>\sf{text or upright symbols in math mode}</code>	sans serif text or upright symbols in math mode

list because these are the only 11 cited in this guide.

4.11. *tGIS* macros

Table 2 gives a list of macros for use with *tGIS*. The list displays each macro’s code and a description/demonstration of its function.

5. Example of a section heading with SMALL CAPS, lowercase, *italic*, and bold Greek such as κ

The following code shows how to achieve this section head:

```
\section{Example of section heading with\\*
  {\fontencoding{T1}\scshape\lowercase{small caps}},
  \lowercase{lowercase}, {\bi italic},
  and bold\\* Greek such as
  ${\bm\kappa}$}\label{headings}
```

6. *tGIS* journal style

The notes given here relate to common style errors found in *tGIS* manuscripts, but are *not* intended to be exhaustive.

6.1. *Punctuation*

When deciding where to add commas, it may be helpful to read through the sentence and note where the natural ‘pauses’ occur. The needs of readers for whom English is not a first language should be borne in mind when punctuating long sentences. For example, consider the following sentence as it appeared in *tGIS*: ‘When we do not limit ourselves by constraints arising from the choice of an initial fluctuation spectrum, structures in

an open universe, including the peculiar velocity structure, can be reproduced in a flat Lemaître universe for a large part of their evolution.’ Now consider the same sentence without commas: ‘When we do not limit ourselves by constraints arising from the choice of an initial fluctuation spectrum structures in an open universe including the peculiar velocity structure can be reproduced in a flat Lemaître universe for a large part of their evolution.’

6.2. *Spelling*

Please use British spelling – e.g. centre not center, labelled not labeled. The following style regarding -ise, -yse and -ize spellings is used: -ise – devise, surprise, comprise, revise, exercise; -yse – analyse; -ize: recognize, criticize, minimize, emphasize, organize.

6.3. *Hyphens, n-rules, m-rules and minus signs*

- Hyphens (one dash in $\text{T}_{\text{E}}\text{X}/\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X} 2_{\epsilon}$). *tGIS* uses hyphens for compound adjectives (e.g. low-density gas, least-squares fit, two-component model) but not for complex units or ranges, which could become cumbersome (e.g. 15 km s^{-1} feature, 100–200 μm observations).
- n-rules (two dashes in $\text{T}_{\text{E}}\text{X}/\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X} 2_{\epsilon}$). These are used (a) to denote a range (e.g. 1.6–2.2 μm); and (b) to denote the joining of two words of equal standing (e.g. Kolmogorov–Smirnov test, Herbig–Haro object).
- The m-rule (three dashes in $\text{T}_{\text{E}}\text{X}/\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X} 2_{\epsilon}$) is used in *tGIS* as an alternative to parentheses (e.g. ‘the results – assuming no temperature gradient – are indicative of ...’).
- The minus sign (one dash in $\text{T}_{\text{E}}\text{X}/\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X} 2_{\epsilon}$) is produced automatically in math mode by use of a single dash, e.g.

$$y_i \in \{-1, 1\} \quad \forall i \in V, \quad (4)$$

where $| - V | = A^2 + B^2$.

is produced by

```
\begin{equation}
y_{\{i\}} \in \{-1, 1\} \quad \forall i \in V,
\end{equation}
\noindent where  $| - V | = A^2 + B^2$ .
```

6.4. *References*

It is important to use the correct reference style, details of which can be found in Section 4.10 above.

6.5. *Maths fonts*

Scalar variables should be mediumface italic (e.g. *s* for speed); vectors should be bold italic (e.g. ***v*** for velocity); matrices should be bold roman (upright) (e.g. **A**), and tensors should be bold upright sans serif (e.g. **L**). Differential d, partial differential ∂ , complex *i*, exponential *e*, superscript T for ‘transpose’, sin, cos, tan, log, etc., should all be roman.

Openface, or ‘blackboard’, fonts can be used, for example, for the integers \mathbb{Z} and the reals \mathbb{R} . Sub/superscripts that are physical variables should be italic, while those that are labels should be roman (e.g. C_p , T_{eff}). Displayed equations should have end-of-line punctuation appropriate to the running text sentence of which they form a part.

7. Troubleshooting

Authors may from time to time encounter problems with the preparation of their papers in $\text{\LaTeX} 2_{\epsilon}$. The appropriate action to take will depend on the nature of the problem – the following is intended to act as a guide.

- (i) If the problem is with $\text{\LaTeX} 2_{\epsilon}$ itself, rather than with the actual macros, please refer to the appropriate handbooks for initial advice.¹ If the solution cannot be found, and you suspect that the problem lies with the macros, then please contact Taylor & Francis (latex.helpdesk@tandf.co.uk).
- (ii) Problems with page make-up (e.g. large spaces between paragraphs, or under headings or figures; uneven columns; figures/tables appearing out of order): please do *not* attempt to remedy these yourself using ‘hard’ page make-up commands – the typesetter will correct such problems. (You may, if you wish, draw attention to particular problems when submitting the final version of your paper.)
- (iii) If a required font is not available at your site, allow \TeX to substitute the font and specify which font you require in the covering letter accompanying your file(s).

7.1. Fixes for coding problems

This guide has been designed to minimize the need for user-defined macros to create special symbols. Authors are urged, wherever possible, to use the following coding rather than to create their own. This will minimize the danger of author-defined macros being accidentally ‘over-ridden’ when the paper is typeset in Times (see Section 4.6, ‘Typesetting mathematics’ above). In cases where it is essential to create your own macros, these should be displayed in the preamble of the source file before `\begin{document}`.

- (i) Fonts in section headings and paper titles. The following are examples of styles that sometimes prove difficult to code.

Paper titles:

Generalized Flory theory at $\delta > 50^\circ$

is produced by

```
\title{Generalized Flory theory at
      $\{\backslash\text{bm}\delta > \{\backslash\text{bfseries} 50\}^\circ$}
```

¹ \TeX : Knuth, D., 1986, *The \TeX book* (New York: Addison–Wesley); $\text{\LaTeX} 2_{\epsilon}$: Lamport, L., 1985, *$\text{\LaTeX} 2_{\epsilon}$ User’s Guide and Reference Manual* (New York: Addison–Wesley).

Ion–ion correlations in H II regions

is produced by

```
\title{Ion--ion correlations in H\,\{\sc ii} regions}
```

- (ii) n-rules, m-rules, hyphens and minus signs (see Section 6.3 for correct usage). To create the correct symbols in the sentence

The high-resolution observations were made along a line at an angle of -15° (East from North) from the axis of the jet – which runs North–South

you would use the following code:

```
The high-resolution observations were made along a line at an
angle of $-15^\circ$ (East from North) from the axis of the
jet -- which runs North--South
```

- (iii) Fonts in superscripts and subscripts. Subscripts and superscripts will automatically come out in the correct font and size in a math environment (e.g. enclosed by ‘\$’ delimiters in running text or within `\[...]` or the ‘equation’ environment for displayed equations). You can create the output \mathbf{k}_x by typing `${\bm k_x}`. If the subscripts or superscripts need to be other than italic, they should be coded individually – see (vi) below.
- (iv) Calligraphic letters (uppercase only). Normal calligraphic can be produced with `\cal` as usual (in math mode).
- (v) Automatic scaling of brackets. The codes `\left` and `\right` should be used to scale brackets automatically to fit the equation being set. For example, to get

$$v = x \left(\frac{N + 2}{N} \right)$$

use the code

```
\[
  v = x \left( \frac{N+2}{N} \right)
\]
```

- (vi) Roman font in equations. It is often necessary to make some symbols roman in an equation (e.g. units, non-variable subscripts). For example, to get the following output:

$$\sigma \simeq (r/13 h^{-1} \text{ Mpc})^{-0.9}, \quad \omega = \frac{N - N_s}{N_R}$$

you should use:

```
\[
  \sigma \simeq (r/13~h^{-1}
~{\rm Mpc})^{-0.9}, \quad \omega
=\frac{N-N_{\rm s}}{N_{\rm R}}
\]
```

8. Obtaining the tGIS2e Class file

8.1. *Via the Taylor & Francis website*

This Guide for Authors and the tGIS2e.cls Class file may be obtained via the Instructions for Authors on the Taylor & Francis homepage for the journal (<http://www.tandf.co.uk/journals/titles/13658816.asp>).

Please note that the Class file calls up the following open-source LaTeX packages, which will, for convenience, unpack with the downloaded Guide for Authors and Class file: `amsbsy.sty`; `amsmath.sty`; `amssymb.sty`; `enumrate.sty`; `epsfig.sty`; `graphicx.sty`; `natbib.sty`; `rotating.sty`; and `subfigure.sty`.

8.2. *Via e-mail*

This Guide for Authors, the Class file and the associated open-source LaTeX packages are also available by e-mail. Requests should be addressed to `latex.helpdesk@tandf.co.uk` clearly stating for which journal you require the Guide for Authors and/or Class file.