

Molecular Physics: **L^AT_EX 2_ε style guide for authors (Style A)**

Taylor & Francis Limited, 4 Park Square, Milton Park, Abingdon, OX14 4RN, UK
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This guide is for authors who are preparing papers for the Taylor & Francis journal *Molecular Physics* (*tMPH*) using the L^AT_EX 2_ε document preparation system and the Class file `tMPH2e.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 `tMPH2e.cls` as early as possible in the creation of their files.

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1 Introduction

In addition to the standard submission of hardcopy from authors, *Molecular Physics* (*tMPH*) accepts machine-readable forms of papers in Microsoft® Word and L^AT_EX 2_ε. The layout design for *tMPH* has been implemented as a L^AT_EX 2_ε Class file. The *tMPH* Class file is based on `article.cls`. Commands that differ from the standard L^AT_EX 2_ε interface, or which are provided in addition to the standard interface, are explained in this guide. This guide is not a substitute for the L^AT_EX 2_ε manual itself.

1.1 The *tMPH* document style

The use of L^AT_EX 2_ε document styles allows a simple change of style (or style option) to transform the appearance of your document. The *tMPH2e* Class file preserves the standard L^AT_EX 2_ε interface such that any document that can be produced using the standard L^AT_EX 2_ε `article` style can also be produced with the *tMPH* 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 *tMPH* journal, it is typeset in Monotype Times. As most authors do not own this font, it is likely that the page make-up will change with the change of font. For this reason, we ask you 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 at a later stage.

1.2 Submission of L^AT_EX 2_ε articles to the journal

Papers for consideration should be sent to any of the Editors, as follows: F. Schaefer III (Chair), Center for Computational Quantum Chemistry, University of Georgia, Athens, GA 30602, USA (e-mail: hfs@arches.uga.edu); N. C. Handy, Department of Chemistry, University of Cambridge, Cambridge CB2 1EW, UK (e-mail: nch1@cus.cam.ac.uk); J.-P. Hansen, Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge, CB2 1EW, UK (e-mail: molphys@ch.cam.ac.uk); F. Merkt, Laboratorium für Physikalische Chemie, Eidgenössische Technische Hochschule Zürich ETH-Hönggerberg, HCI CH-8093 Zürich, Switzerland (e-mail: frederic.merkt@mw.phys.chem.ethz.ch); T. P. Softley, Chemistry Research Laboratory, University of Oxford, Oxford, OX1 3TA, UK (e-mail: molecular-physics-editor@chem.ox.ac.uk). Authors are encouraged to submit manuscripts electronically. Electronic submissions should be sent as e-mail attachments using a standard word processing program, such as MSWORD or

PDF. If e-mail submission is not possible, please send an electronic version on disc along with three paper copies together with one set of high-quality figures for reproduction. General Instructions for Authors may be found at (<http://www.tandf.co.uk/journals/authors/tmphauth.asp>).

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{article}`. Authors should not attempt to use implementation-specific `\special`'s directly.

On acceptance (as opposed to initial submission), authors should post the final version of the manuscript to the Editor to whom the initial submission was made, as follows.

- (i) a 3.5- or 5.25-inch disc (double- or high-density PC or Apple Mac), containing the *corrected* version of the paper, plus any macro files you have been using. The final version should be text-only ASCII files (i.e. with no system-dependent control codes);
- (ii) two hard copies of the corrected version, plus a marked copy of the accepted version showing *any further author corrections incorporated after acceptance*;
- (iii) a signed statement that the revised copy and the disc do indeed correspond.

In addition, the disc(s) should be referred to in a covering letter and clearly labelled, as follows.

- (i) the disc format (e.g. IBM 360k);
- (ii) how many files each disc contains, their names, a description of the file contents and the number of pages each file will produce when printed; details of any user-defined macros;
- (iii) the computer system and implementation of L^AT_EX 2_ε used (e.g. IBM AT, PCL^AT_EX 2_ε).

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 *tMPH* Class file

If the file `tMPH2e.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 *tMPH* document style is implemented as a complete document style, *not* a document style option. In order to use the *tMPH* style, replace ‘`article`’ by ‘`tMPH2e`’ in the `\documentclass` command at the beginning of your document:

```
\documentclass{article}
```

is replaced by

```
\documentclass{tMPH2e}
```

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

- (i) `10pt`, `11pt`, `12pt`—unavailable;
- (ii) `oneside` (no associated style file)—`oneside` is the default;
- (iii) `leqno` and `titlepage`—should not be used;
- (iv) `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 `tMPH2e` style file using `\usepackage{rotating}` after `\documentclass{tMPH2e}`. 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}{@{}l|l|l|l|l}
.
.
.
```

```
\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 L^AT_EX 2_ε design elements, the *tMPH* style includes separate commands for specifying short versions of the title and authors' names for running headlines. In general, once you have used this additional `tMPH2e.cls` feature in your document, do not process it with a standard L^AT_EX 2_ε style file.

3.1 Titles and authors' names

In the *tMPH* style, the title of an article and the author's name (or authors' names) are used both at the beginning of the article for the main title and throughout the article as running headlines at the top of every page. The title is used on odd-numbered pages (rectos) and the abbreviated list of authors' names appears on even-numbered pages (versos). Although the main heading can run to several lines of text, the running headline must be a single line (≤ 47 characters). Moreover, the main heading can also incorporate new line commands (e.g. `\`) but these are not acceptable in a running headline. To enable you to specify an alternative short title and an abbreviated list of authors' names, the `\markboth` command has been used to produce the running headline. The running headlines for this guide were produced using the following code (i.e versos and rectos the same):

```
\markboth{\LaTeXe\ guide for authors}{\LaTeXe\
guide for authors}
```

The `\thanks` note produces a footnote to the title or author(s). In this situation, footnote symbols should be inserted manually in the order: * `\ast` (for the 'Corresponding author'), † `\dagger`, ‡ `\ddagger`, § `\S`, ¶ `\P`, || `\I`, †† `\dagger\dagger`, ‡‡ `\ddagger\ddagger`, §§ `\S\S`, ¶¶ `\P\P`, ||| `\I\I`.

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

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

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

3.2 Abstracts

Immediately following the `\maketitle` command, you should include an abstract. The abstract should be enclosed within an `abstract` environment. For example, the title group and abstract for this guide were produced by the following source code:

```
\markboth{\LaTeXe\ guide for authors}{\LaTeXe\ guide for authors}

\title{{\textit{Molecular Physics}}:\break
\LaTeXe\ style guide for authors (Style A)}

\author{Taylor \& Francis Limited\thanks{\vspace{6pt}\newline
\centerline{\tiny{\em Molecular Physics} ISSN 0095-897 print
\textcopyright 2005 Taylor \& Francis Ltd}}
\newline\centerline{\tiny{
http://www.tandf.co.uk/journals}}\newline \centerline{\tiny{DOI:
10.1080/00958970xxxxxxxxxxxxx}}}, 4 Park Square, Milton Park,
Abingdon, OX14 4RN, UK}
\received{v3.0 released February 2005}

\maketitle
\begin{abstract}
This guide is for authors who are preparing papers for the Taylor \&
Francis journal {\em Molecular Physics} ({\it tMPH}\,) using the \LaTeXe\
document
preparation system and the Class file {\tt tMPH2e.cls}, which is available
via the journal homepage on the Taylor \& Francis website (see section
\ref{FTP}).
Authors planning to submit their papers in \LaTeXe\ are advised to use
{\tt tMPH2e.cls} as early as possible in the creation of their files.
\end{abstract}
```

3.3 Lists

The *tMPH* 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 roman numerals:

- (i) first item
- (ii) second item
- (iii) third item

Alternative numbering styles can be achieved by inserting a redefinition of the number labelling command after the `\begin{enumerate}`. For example, the list

- (1) first item
- (2) second item
- (3) etc. ...

was produced by:

```
\begin{enumerate}[(2)]
  \item[(1)] first item
  \item[(2)] second item
  \item[(3)] etc. \ldots
\end{enumerate}
```

Unnumbered lists are also provided using the `enumerate` environment. For example,

- First unnumbered item which has no label and is indented from the left margin.
- Second unnumbered item.
- Third unnumbered item.

was produced by:

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

Itemized 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
\end{itemize}
```

```
\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 tMPH2e Class file.

4.1 Sections

L^AT_EX 2_ε provides five levels of section headings and they are all defined in the tMPH2e Class file:

- (i) `\section`
- (ii) `\subsection`
- (iii) `\subsubsection`
- (iv) `\paragraph`
- (v) `\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 *tMPH* 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 is produced using the following commands:

```
\begin{figure}
\centerline{\epsfbox{fig1.eps}} \caption{This is an example of a
figure caption.}
\label{sample-figure}
\end{figure}
```

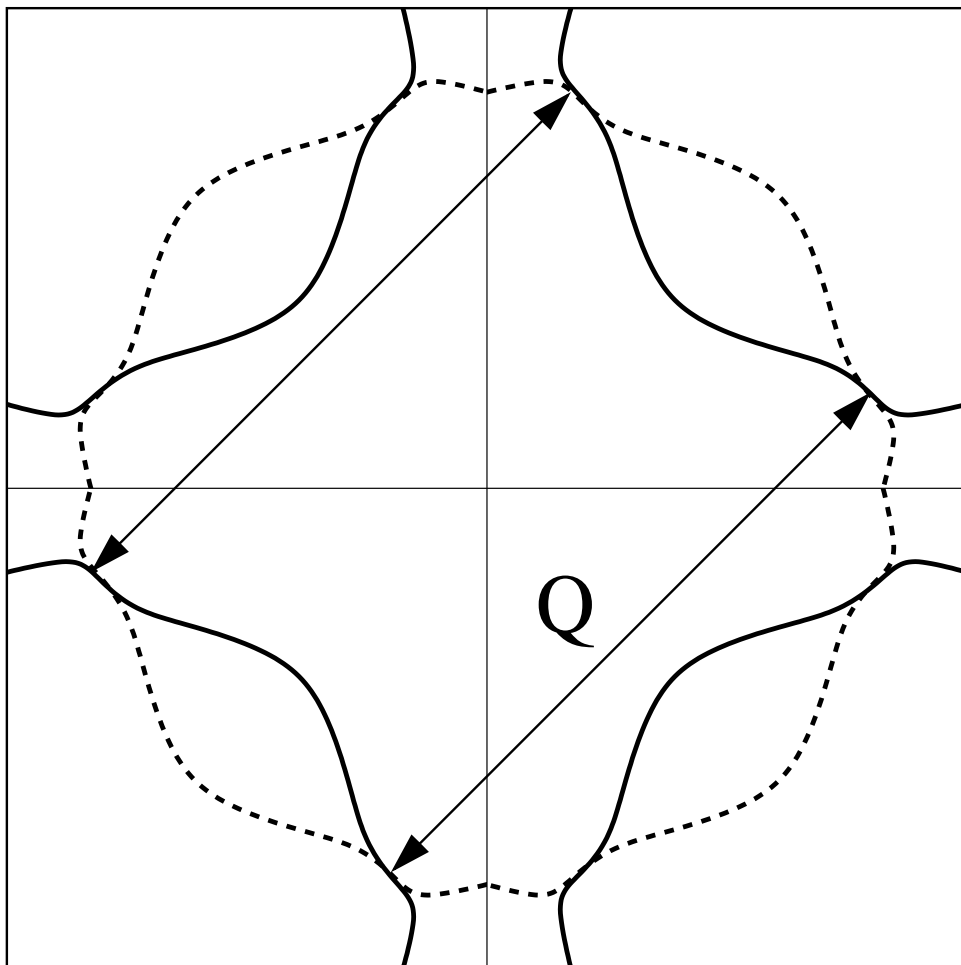



Figure 1. This is an example of a figure caption.

4.3 Tables

The *tMPH* 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 *tMPH* style, 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`

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 is not as accurate, owing to numerical error.

^bAn example table footnote to show the text turning over when a long footnote is inserted.

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}
  \tbl{Radio-band beaming model parameters
        for {FSRQs and BL Lacs.}}
{\begin{tabular}{@{}lcccccc}\toprule
  Classa{\rm a}$
  & $\gamma_1$ & $\gamma_2^b$ & $\langle\gamma\rangle$ & $G$ & $f$ & $\theta_c$ \\
  BL Lacs & 5 & 36 & 7 & -4.0 & $1.0 \times 10^{-2}$ & $10^\circ$ \\
  FSRQs & 5 & 40 & 11 & -2.3 & $0.5 \times 10^{-2}$ & $14^\circ$ \\
\botrule
\end{tabular}}
\tablenote{a{\rm a}$This is not as accurate, owing to
  numerical error.}
\tablenote{b{\rm b}$An example table footnote to show the
  text turning over when a long footnote is inserted.}\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 article and 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 *tMPH* 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. □

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 *tMPH* 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 (`\[`) and close (`\]`) 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 *tMPH* style using the commands

```

\[
\sum_{i=1}^p \lambda_i = {\rm trace}({\texttrm{\bf S}})\qquad
i\in {\mathbb R}
\].

```

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}
```

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

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

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 (which calls up `upmath.sty`) 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 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.

4.8 References

4.8.1 References cited in the text. References cited in the text should be quoted by number (e.g. [1], [2,4,10], [21–55], not [21]–[55]). References should be listed in the bibliography in the order in which they first appear within the main text. 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 `ed84` in the citation form `\cite{ed84}` produces ‘[2]’, and the keys `ed84` and `aiex02` in the citation form `\cite{ed84,aiex02}` produce ‘[2, 4]’. The citation for a range of bibliographic entries (e.g. ‘[2–4, 6]’) will automatically be produced by `\cite{ed84,lam86,aiex02,aiex00}`.

4.8.2 The list of references. The following listing shows some references prepared in the style of the journal:

References

- [1] M. Neumann. *Mol. Phys.*, **50**, 841 (1983).
- [2] D.M.F. Edwards, P.A. Madden, I.R. McDonald. *Mol. Phys.*, **51**, 1141 (1984).
- [3] R.M. Aiex, M.G.C. Resende, P.M. Pardalos, G. Toraldo. GRASP with path-relinking for the three-index assignment problem. Technical report, AT&T Labs-Research (2000).
- [4] R.M. Aiex, M.G.C. Resende, C.C. Ribeiro. Probability distribution of solution time in GRASP: an experimental investigation. Available online at: www.graspintime.com (accessed 23 October 2003).

- [5] F. Glover. In *Computing Tools for Modeling, Optimization and Simulation: Interfaces in Computer Science and Operations Research*, M. Laguna and J.L. González-Velarde (Eds), 2nd edn, pp. 1–24, Kluwer Academic, Boston, MA (2000).
- [6] L. Lamport. Efficient algorithms for layer assignment problems. PhD thesis, University of Princeton, NJ (1986).
- [7] C.W. Misner (Ed.). *Gravitation*, pp. 56–79, Freeman, San Francisco, CA(1973).
- [8] H. Kern. The resurgent Japanese economy and a Japan–United States free trade agreement, paper presented at the 4th International Conference on the Restructuring of the Economic and Political System in Japan and Europe, Milan, Italy, 21–25 May (1996).
- [9] F. French. *Title of a Book in Another Language*, P. Smith, Translator, Dover, New York (1988, original work published 1923).

This list was produced by:

```
\begin{thebibliography}{9}
```

```
\bibitem{neu83}%1
```

M. Neumann. *{\itshape Mol. Phys.,}* *{\bfseries 50}*, 841 (1983).

```
\bibitem{ed84}%2
```

D.M.F. Edwards, P.A. Madden, I.R. McDonald. *{\itshape Mol. Phys.,}* *{\bfseries 51}*, 1141 (1984).

```
\bibitem{aiex00}%3
```

R.M. Aiex, M.G.C. Resende, P.M. Pardalos, G. Toraldo. GRASP with path-relinking for the three-index assignment problem. Technical report, AT&T Labs–Research (2000).

```
\bibitem{aiex02}%4
```

R.M. Aiex, M.G.C. Resende, C.C. Ribeiro. Probability distribution of solution time in GRASP: an experimental investigation. Available online at: www.graspintime.com (accessed 23 October 2003).

```
\bibitem{glov00}%5
```

F. Glover. In *{\it Computing Tools for Modeling, Optimization and Simulation: Interfaces in Computer Science and Operations Research}*, M. Laguna and J.L. González-Velarde (Eds), 2nd edn, pp. 1–24, Kluwer Academic, Boston, MA (2000).

```
\bibitem{lam86}%6
```

L. Lamport. Efficient algorithms for layer assignment problems. PhD thesis, University of Princeton, NJ (1986).

```
\bibitem{mtw73}%7
```

Table 2. *tMPH* macros

<code>\markboth{optional short author(s)} {optional short title}</code>	short author(s) list and short 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

C.W. Misner (Ed.). `{\itshape Gravitation}`, pp. 56--79, Freeman, San `\nobreak` Francisco, CA(1973).

`\bibitem{hk96}%8`

H. Kern. The resurgent Japanese economy and a Japan--United States free trade agreement, paper presented at the 4th International Conference on the Restructuring of the Economic and Political System in Japan and Europe, Milan, Italy, 21--25 May (1996).

`\bibitem{fzf88}%9`

F. French. `{\itshape Title of a Book in Another Language}`, P. Smith, Translator, Dover, New York (1988, original work published 1923).

`\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 `\cite{}` command. Bibliography entry should be the material that is to appear in the bibliography, suitably formatted.

4.9 *tMPH* macros

Table 2 gives a list of macros for use with *tMPH*. 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 *tMPH* journal style

The notes given here relate to common style errors found in *tMPH* 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 *tMPH*: ‘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

- (i) Hyphens (one dash in T_EX/L^AT_EX 2_ε). *tMPH* 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).
- (ii) n-rules (two dashes in T_EX/L^AT_EX 2_ε). 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).
- (iii) The m-rule (three dashes in T_EX/L^AT_EX 2_ε) is used in *tMPH* as an alternative to parentheses (e.g. ‘the results—assuming no temperature gradient—are indicative of ...’).
- (iv) The minus sign (one dash in T_EX/L^AT_EX 2_ε) is produced automatically in math mode by use of a single dash, e.g.

$$y_i \in \{-1, 1\} \quad \forall i \in V \quad (3)$$

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 4.8 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 ℤ and the reals 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 L^AT_EX 2_ε. 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 L^AT_EX 2_ε 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 T_EX 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
```

¹T_EX: Knuth, D., 1986, *The T_EX book* (New York: Addison–Wesley); L^AT_EX 2_ε: Lamport, L., 1985, *L^AT_EX 2_ε User’s Guide and Reference Manual* (New York: Addison–Wesley).

`\Delta > {\bfseries 50}^\circ`

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° (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 `[\dots]` or the ‘equation’ environment for displayed equations). You can create the output \mathbf{k}_x by typing `\mathbf{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:

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

8 Obtaining the tMPH2e Class file

8.1 Via the Taylor & Francis website

This Guide for Authors and the tMPH2e.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/00268976.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: amsfonts.sty; amssymb.sty; cite.sty; rotating.sty; and upmath.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.