Info

Springer authors do it with TEX

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At Springer-Verlag the first experiments with TEX began in 1988, at the instigation of the editors in the physics' department. Our production staff were initially sceptical, feeling that Springer's high-quality books had to be typeset in Monotype Times and that authors would never achieve the required standard of presentation. Today, however, some of the most severe critics are enthusiastic converts to TEX.

1 General concept

TEX is used to typeset both books and journals articles in mathematics, physics, engineering and, of course, computer science.

Two strategies are possible: the author delivers either camera-ready pages with line-art integrated or pasted in, or files that are TEXed and the result output on a phototypesetting machine.

The advantages of using authors' files for publishing have been stated many times: There is less proofreading, as there is no rekeying which may introduce new mistakes. Authors also do not have the problem of how to make clear to the typesetter exactly which symbol they want to be used in a certain context and how a specific formula should be arranged, because they have complete control over these aspects. Publication times are reduced, which is especially valuable in journals. For the reader the most striking advantage is the great improvement in typesetting quality for camera-ready books. These used to be reproductions of typewritten pages with mathematical symbols often drawn in by hand. Now their appearance more and more resembles that of conventionally typeset books. With the advent of 600 dpi laser printers the quality gap between the two methods has narrowed considerably.

However, TEX files do not automatically end up as beautifully made up pages. Although any TEX user can produce readable documents with sometimes quite complex formulas, it takes someone with a good knowledge of page layout to exploit TEX to full advantage. It was this misunderstanding, namely that anybody could make beautiful books with TEX, that initially has brought TEX into discredit.

To assist their authors, publishers usually produce small brochures that explain their basic typographical rules and conventions, but it takes quite an effort to implement those rules into TEX code. Sometimes authors take great pleasure in writing macros to produce the layout for their project, but they should not be obliged to first take a course in typography before starting to type their manuscripts.

Instead, we provide them with macro packages that enforce the layout that is needed for a certain book series or journal. Here we always have the trade-off between

- maintaining typographical standards
- giving authors the flexibility they need for their work
- minimizing development costs

Authors should not have to bother with how much white space is necessary before and after a theorem or how to avoid a section heading at the bottom of a page, but they need the choice of different referencing systems and numbering schemes. In addition, typographical conventions vary from one discipline to another. For a journal article the typographical guidelines are of course stricter, to ensure a uniform appearance of the journal than they are for a monograph.

We provide macro packages for LATEX as well as plain TEX, both for journal articles and for books. Nowadays LATEX is preferred by most authors, even though intensive use of the automatic referencing facilities offered by LATEX often leads to serious memory shortage. Tables 1 and 2 list all macro packages currently available.

All macro packages come with detailed documentation that covers installation and use of the macros and features valuable tips on how to improve the appearance of the document. Sample files are often included, along with a reference card for the impatient. We used to distribute the AMS fonts with our packages but lately we feel this is necessary only in exceptional cases.

2 How to obtain the macro packages

All macro packages are available (free of charge) to all Springer authors. Originally we handed out diskettes, but now all macro packages are on a

Table 1: Macro packages for plain TEX

Name	Vers.	supported fonts[a]	page size (cm)	to be used for
CPMoMu01	1.0	cm	11,7 × 18,9	monographs and proceedings
CP-EMS	1.1	cm	11,8 × 19	*Encyclopedia of Mathematical Science* book series
PJour1	1.0	cm/ps	12,2 × 19,5	articles for the journals — *Acta Informatica* — *Archive for Mathematical Logic* — *Communications in Mathematical Physics* — *Economic Theory* — *Inventiones Mathematicae* — *Journal of Mathematical Biology* — *Mathematische Annalen* — *Mathematische Zeitschrift* — *Numerische Mathematik* — *Probability Theory and Related Fields* — *Theoretica Chimica Acta*
PJour1g	1.0	cm/ps	12,2 × 19,5	articles for arbitrary Springer journals with one-column layout e.g. — *Calculus of Variation*
PJour2	1.0	cm/ps	17,8(8,6) × 24	articles for journals with two-column layout e.g. — *Informatik Forschung und Entwicklung* — *OR Spektrum*
PJour2g	1.0	cm/ps	17,8(8,6) × 24	articles for journals with two-column layout e.g. — *Multimedia Systems* — *Machine Visions & Applications*
PLNCS	1.1	cm	12,2 × 19,3	contributions to volumes of *Lecture Notes in Computer Science*

[a] cm = Computer Modern fonts, ps = PostScript Times fonts

Table 2: Macro packages for LATEX

Name	Vers.	supported fonts	page size (cm)	to be used for
CLMoMu01	1.0	cm	11,7 x 18,9	monographs and proceedings
LJour1	1.0	cm/ps	12,2 x 19,5	articles for journals with one-column layout, see PJour1 and PJour1g
LJour2	1.0	cm/ps	17,8(8,6) x 24	articles for journals with two-column layout, see PJour2 and PJour2g
LLNCS	1.1	cm	12,2 x 19,3	contributions to volumes of *Lecture Notes in Computer Science*

mailserver and on an ftp/gopher server for fast and easy distribution.

2.1 Mailserver

The mailserver has the e-mail address
`svserv@vax.ntp.springer.de`
All e-mail requests to this server must be in a specific format as the requests are handled by a program rather than a person. An e-mail sent to order a macro package has to contain a line of the form

get `directory\ filename.zip`

e.g.

`get \tex\latex\clmomu01.zip`

To ensure safe transmission over the nets, the files are uuencoded and pkzipped. Thus the filenames end with `.zip`.

2.2 Gopher and ftp

For users with access to ftp and/or gopher, these transmission methods are, of course, much more convenient. Our server has the name `trick.ntp.springer.de`. For ftp the user is ID anonymous. Please enter your e-mail address at the password prompt.

3 Procedure for books

Authors who wish to use TeX when preparing a book for publication with Springer should contact the editor as early as possible. Once it has been decided whether the book should be produced camera-ready by the author or typeset from files supplied by the author, he receives a suitable macro package. Authors who prefer to use their own macros are usually free to do so. In either case we request that the author send in a few sample pages so that we can check that all requirements are met.

4 Procedure for journals

One of the first Springer journals to use TeX was *Semigroup Forum*, where the editor himself wrote a set of macros. The appearance of this journal which is produced camera-ready, has thus improved greatly at no additional cost.

TeX is also used for about 30 typeset journals. As many of these are typeset with Times fonts, our article macros offer the option of using them together with PostScript Times fonts should the latter be available. This ensures that the page proofs produced by the author have nearly the same line and page breaks as the final printed version, which is very important when it comes to typesetting complex displayed formulas, where only the author can decide where to insert line breaks.

After the article has been accepted for publication the author is requested to send the final version of the TeX file together with a hard copy and all figures that should be included to the production editor at Springer-Verlag. Here copy editing changes are incorporated and often improvements in page make-up have to be carried out. A PostScript file is then sent to the typesetting company for exposure on film.

5 A look into the future

To further improve the service to our authors, we accept authors files over Internet, as some authors find e-mail more convenient than converting files to a DOS diskette.

We always request a hard copy of the article to be able to check whether the delivered file actually contains the final version and that it is intact. Together with this print out, we receive the originals of the figures that the author wishes to include in his publication.

Files transmitted via e-mail are sometimes corrupted. We therefore ask that they be uuencoded. Not all authors are familiar with this program. With ftp, however, corruption of files is not a problem.

Lately more and more authors supply us with EPS files of their figures which we then incorporate in the TeX file. This enables us to build up a fully electronic archive of articles which can be used to publish the journals in electronic form as well.

The first journals, which is entirely done in TeX and which we also publish as an electronic version is *Numerische Mathematik*, a well known journal on numerical analysis. Subscribers to the paper version may order the files of the articles as well. Initially, delivery as TeX resp. LaTeX files with integrated image files (EPS or TIFF) is planned, but other formats are possible as well. We are currently conducting a market research on this subject. Persons and institutes interested in testing this offer are requested to contact our Electronic Media Department (e-mail:`em-helpdesk@springer.de`).