

Instructions to authors for the extended abstract

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Summary. This article describes the use of `nscm-24.cls` class file for authors using L^AT_EX 2_ε computer typesetting system for extended abstracts to the *Proceedings of the NSCM-24*. The extended abstract should start with a summary, which should be less than about one hundred words.

Key words: class file, instructions, NSCM-24

Introduction

The Seminar proceedings will consist of a hard-printed book containing Extended Abstracts. Authors should submit the Extended Abstract electronically using the following e-mail address: `nscm-24@list.aalto.fi`. For dead-lines, see the conference web-pages at <http://nscm-24.aalto.fi>. The Extended Abstract should be written following the format described in this file which is available from the conference website. The organizers do not commit themselves to include in the Proceedings any Extended Abstract received later than the ultimate deadline of September 23rd 2011. The speaker and the contact author should match. The speaker must register and pay his registration fee during the advance period (before October 7th 2011) for the Extended Abstract to be included in the proceedings and final programme of the Seminar. The Extended Abstract must be written in English within a printing box of 16cm x 21cm, centered in the page. The Extended Abstract including figures, tables and references should have a minimum length of 2 pages and should not exceed 4 pages. Maximum file size is 4 MB.

The front page

Using the class file `nscm-24.cls` the title and authors can be defined as in the present instructions:

```
\title{Instructions to authors for the extended abstract}  
\author{First Author, Second Author and Third Author}
```

After the document opening, i.e. after the `\begin{document}` command follows the summary, using the `summary`-environment as:

```
\begin{summary}  
The text of the summary here  
\end{summary}
```

After the summary four to then key words should be provided using the `keywords`-environment:

```
\begin{keywords}  
keyword1, keyword2  
\end{keywords}
```

After key words the start the essential body of the text.

Please notice: in the title and section headings use capitals minimally, as in an ordinary sentence.

L^AT_EX 2_ε definitions

The class file `nscm-24.cls` automatically includes the following macro packages: `amsmaths`, `amsmath`, `amssymb`, `amsbsy`, `booktabs`, `calc`, `epsfig`, `graphicx`, `lastpage`, `paralist`, `stmaryrd`.

Encoding is defined as `\RequirePackage[latin1]{inputenc}`. For Windows or Macintosh it is recommended to change `latin1` to `ansinew` or `applemac`, respectively.

Some mathematical operators and bold greek alphabets are defined in the `rmstyle.cls` class file, see subsection “Mathematical formulas”.

The body of the extended abstract

Standard text

The article should be divided into sections using the command `\section{.}` and possibly in subsections with command `\section{.}`. The section titles appear without numbers.

Mathematical formulas

Mathematical formulas should be centered and the equation numbers placed in the right hand side as

$$f(\sigma_{ij}, K^\alpha) = \sqrt{3J_2} - \sigma_{y0} - K = 0, \quad (1)$$

where J_2 is the second invariant of the deviatoric stress tensor.

Matrices and vectors should be written in bold, or alternatively vectors can be denoted by an arrow above the symbol as in the following equation

$$\mathbf{x}^+ = \mathbf{c} + \mathbf{Q}\mathbf{x}, \quad \text{or} \quad \vec{x}^+ = \vec{c} + \mathbf{Q}\vec{x}. \quad (2)$$

Slanted bold symbols are produced with command `\boldsymbol{A}` or `\bo{A}`, which results in **A**. For upright bold symbols use command `\mathbf{A}` or `\bu{A}`, which results in **A**.

Also bold greek symbols are defined in the class file using commands like `\balpha`, `\bbeta` etc., see table 1.

For the divergence-, gradient-, deviator- and trace-operators and the differential, the following command are defined: `\diver`, `\Div`, `\grad`, `\Grad`, `\tr`, `\dd{.}`, the use of them is illustrated in the following equations

$$-\operatorname{div} \boldsymbol{\sigma} = \rho \mathbf{b} - \rho \frac{d\mathbf{v}}{dt}, \quad (3)$$

$$-\operatorname{Div}(\mathbf{S} \cdot \mathbf{F}^T) = \rho_0 \mathbf{b}_0 - \rho_0 \ddot{\mathbf{x}}, \quad (4)$$

$$\mathbf{L} = \operatorname{grad} \mathbf{v}, \quad (5)$$

$$\mathbf{F} = \operatorname{Grad} \boldsymbol{\chi}, \quad (6)$$

$$\boldsymbol{\sigma} = \operatorname{dev} \boldsymbol{\sigma} + \frac{1}{3} \operatorname{tr}(\boldsymbol{\sigma}) \mathbf{I}. \quad (7)$$

In addition the jump-brackets and the energy norm, `\jump{u}` and `\enorm{u}`, are defined producing $\llbracket u \rrbracket$ and $\|u\|$, respectively.

Table 1. Bold greek symbols.

small		small		capital	
command	result	command	result	command	result
<code>\balpha</code>	α	<code>\bmua</code>	μ	<code>\bGamma</code>	Γ
<code>\bbeta</code>	β	<code>\bmnu</code>	ν	<code>\bDelta</code>	Δ
<code>\bgamma</code>	γ	<code>\bxi</code>	ξ	<code>\bTheta</code>	Θ
<code>\bdelta</code>	δ	<code>\brho</code>	ρ	<code>\bLambda</code>	Λ
<code>\bepsilon</code>	ϵ	<code>\bsigma</code>	σ	<code>\bXi</code>	Ξ
<code>\bvepsilon</code>	ε	<code>\bttau</code>	τ	<code>\bPi</code>	Π
<code>\bzeta</code>	ζ	<code>\bphi</code>	ϕ	<code>\bSigma</code>	Σ
<code>\bet</code>	η	<code>\bvphi</code>	φ	<code>\bPhi</code>	Φ
<code>\btheta</code>	θ	<code>\bchi</code>	χ	<code>\bPsi</code>	Ψ
<code>\bkappa</code>	κ	<code>\bpsi</code>	ψ	<code>\bOmega</code>	Ω
<code>\blambda</code>	λ	<code>\bomega</code>	ω		

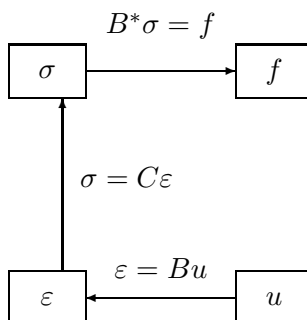


Figure 1. The dual structure of continuum mechanics.

Tables

In producing tables clarity should be emphasised. The following simple rules should be respected:

1. Don't use vertical lines.
2. Don't use double lines.
3. Write the units in the headings of each column, not inside the tabulated material.
4. Write always something before the decimal dot.
5. Don't use any kind of "see. above"-like phrases.

In the class file `rmttyli.cls` the package `booktabs` is included. The possibilities of this package can be utilized, see table 1, or reference [3].

Figures

The figures should be clear, readable and uniquely defined. In the online version of the journal color pictures are possible, but the author should take into account that the figures are readable also in the print version. An example, see figure 1.

List of references

The list of references can be done either using numbered list or by using the Harvard style. This example file is produced using the numbered list in the `LATEXthebibliography` environment.

The authors should respect the standard BibTeX style. The citations to books can be done like [1] and to articles like [2].

References

- [1] L.E. Malvern. *Introduction to the Mechanics of a Continuous Medium*. Prentice-Hall, Englewood Cliffs, New Jersey, 1969.
- [2] M. Wallin and M. Ristinmaa. Accurate stress updating algorithm based on constant strain rate assumption. *Computer Methods in Applied Mechanics and Engineering*, 19(42):5583–5601, 2001.
- [3] F. Mittelbach and M. Goossens. *The L^AT_EX Companion*, Addison-Wesley, 2. painos, 2004.