A user's guide to authors in a model FVCA9 proceeding

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Abstract This model FVCA9 proceeding illustrates how to use the LaTeX environment `svmult` that will be used for the edition of the conference proceeding books. The maximum length is **8 pages for regular papers** and **10-20 pages for invited papers**.

Each chapter should be preceded by an abstract (10–15 lines long) that summarizes the content. The abstract will appear *online* at www.SpringerLink.com and be available with unrestricted access. This allows unregistered users to read the abstract as a teaser for the complete chapter.

Key words: Authors guide, LaTeX, FVCA9 conference proceedings

MSC (2010)**:** 65M08, 65N08, 35Q30

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1 Section, subsection, subsubsection, paragraph

Instead of simply listing headings of different levels we recommend to let every heading be followed by at least a short passage of text. Further on please use the LaTeX automatism for all your cross-references and citations.

And please note that the first line of text that follows a heading is not indented, whereas the first lines of all subsequent paragraphs are.

As for classical LaTeX documents in the document class `article`, you can use the headings `section` (like, e.g., Sec. 1), `subsection`, `subsubsection`, and `paragraph`.

1.1 Subsection heading

Always think on inserting text between two headings...

1.1.1 Subsubsection heading

Always think on inserting text between two headings...

Paragraph heading

This is the text of the paragraph.

2 Mathematical environments

Use the standard `equation` environment to display your equations, e.g.

$$a \times b = c \,, \tag{1}$$

however, for multiline equations we recommend to use the `eqnarray` environment.

$$\begin{aligned} a \times b &= c \\ \mathbf{a} \cdot \mathbf{b} &= \mathbf{c} \end{aligned} \tag{2}$$

Vectors should be denoted in bold thanks to the `\vec` command.

For instance, the classical upwind scheme for the linear transport equation can be written as follows. For all $K \in \mathscr{T}$ and all $n \geq 0$, the discrete conservation of mass written on the cell K writes

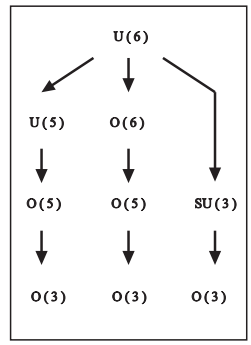

Fig. 1 If the width of the figure is less than 7.8 cm use the `sidecaption` command to flush the caption on the left side of the page. If the figure is positioned at the top of the page, align the sidecaption with the top of the figure – to achieve this you simply need to use the optional argument `[t]` with the `sidecaption` command

$$\frac{\rho_K^{n+1} - \rho_K^n}{\Delta t} m_K + \sum_{\sigma \in \mathscr{E}_K} \mathscr{F}_{K,\sigma}^n = 0. \tag{3}$$

In order to define the flux $\mathscr{F}_{K,\sigma}^n$, we first need to approximate the convection speed $\mathbf{u}$, and more precisely its normal components $u_{K,\sigma}$ across the edges of the mesh by setting

$$u_{K,\sigma} = \int_\sigma \mathbf{u}(\mathbf{x}) \cdot \mathbf{n}_{K,\sigma} \mathrm{d}\mathbf{x}, \qquad \forall K \in \mathscr{T},\ \forall \sigma \in \mathscr{E}_K, \tag{4}$$

where $\mathbf{n}_{K,\sigma}$ denotes the normal to σ outward w.r.t. K. The we can set

$$\mathscr{F}_{K,\sigma}^n = (u_{K,\sigma})^+ \rho_K^n - (u_{K,\sigma})^- \rho_L^n, \quad \forall \sigma = K|L \in \mathscr{E}. \tag{5}$$

Definition 1 Definition text goes here.

Lemma 1 *Lemma text goes here.*

Proposition 1 *Proposition text goes here.*

Theorem 1 *Theorem text goes here.*

Proof The environment `proof` does not automatically includes a square at the end of proof. Therefore, you have to add `\qed` at the end of your proof to add manually the symbol

3 Figures and tabular

You can directly insert images in your proceedings thanks to the `graphicx` package (cf. Fig. 1). Another possibility consists in including TiKZ pictures, as it was done for instance to generate Fig. 2.

Concerning the tables, note the particular position of the caption as illustrated in Tab. 1.

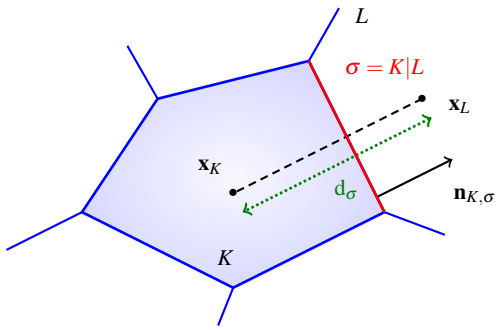

Fig. 2 Here is an example of *admissible mesh* in the sense of [2]

Table 1 Please write your table caption here

Classes	Subclass	Length	Action Mechanism
Translation	mRNA[a]	22 (19–25)	Translation repression, mRNA cleavage
Translation	mRNA cleavage	21	mRNA cleavage
Translation	mRNA	21–22	mRNA cleavage
Translation	mRNA	24–26	Histone and DNA Modification

[a] Table foot note (with superscript)

4 Referring, quoting and citing (bibtex)

Please use the LaTeX automatism for all your cross-references and citations.

The references to the equations must be done thanks to the command `\eqref`. When referring to several equations with successive labels, you can use the shortened notation (3)–(5) instead of (3), (4), and (5).

References to sections, theorems, figures must be done thanks to the `ref` command, like for example Theorem 1 of Sec. 2

> Please do not use quotation marks when quoting texts! Simply use the `quotation` environment – it will automatically render Springer's preferred layout.

You can use directly `bibtex` to generate your bibliography. If so, please use the style `spmpsc` as done below. If you prefer to generate manually you bibliography, please follow the style prescribed below (see also the file `template-FVCA9.bbl`). You can refer to the bibliographic items thanks to the `cite` command, [6, 4, 1, 5]. In order to cite a precise statement in a book, please do like this: [3, Theorem 3.1].

5 Last recommendation

The following important information is highlighted thanks to the environment `svgraybox`.

Please do not include any appendix in your contribution.

Acknowledgements If you want to include acknowledgments of assistance and the like at the end of an individual chapter please use the `acknowledgement` environment – it will automatically render Springer's preferred layout.

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