

# Author instructions for ISMM 2007 full paper: Version 3

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**Abstract** This document shows you how to lay out your full paper for ISMM 2007. Version 2 (February 9th, 2007) adds the use of the `amsrefs` package for bibliographic references. Version 3 (April 27th, 2007) adds prefixes to label and file name for producing camera-ready full papers to be combined for the final book. Abstract should have at most 12 lines.

**Keywords:** author instructions, sample, regular metric space.

## 1. Introduction

To prepare, edit and submit your ISMM 2007 camera-ready full paper, please follow the steps below (mandatory).

1. Read the reviewers recommendations about your full paper by accessing the [ISMM'2007 site restricted area](#), submitting your login and password, and then clicking *review*. Please, carefully take into account the corrections and improvements recommended by the reviewers when preparing the camera-ready version of your paper.
2. Create a folder in your file system called ISMM2007fullpaper (you **must** use this name).
3. Open the file:  
<http://ismm.dpi.inpe.br/col/dpi.inpe.br/banon-pc2@80/2006/11.01.13.53/doc/doc.zip>

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4. Extract this file to the folder ISMM2007fullpaper. This folder now contains latex files for the preparation of your document.
5. Open the template file ISMM2007fullpaper/sampledocument.tex with your L<sup>A</sup>T<sub>E</sub>X editor.
6. Overwrite the text with your own and save it as fullpaperdocument.tex (you **must** use this name – don't use capital letters). This file must not contain the L<sup>A</sup>T<sub>E</sub>X commands `\begin{document}` and `\end{document}` — these commands are already part of the file fullpaper.tex (see Item 8)
7. (optional) Open the file ISMM2007fullpaper/fullpaperpreamble.tex with your L<sup>A</sup>T<sub>E</sub>X editor and enter the L<sup>A</sup>T<sub>E</sub>X commands you want to appear in the preamble (don't change the name of this file).
8. Create the file fullpaper.pdf by compiling the file fullpaper.tex contained in the folder ISMM2007fullpaper. The content of the fullpaper.tex file **must not** be changed (only the content of fullpaperdocument.tex and fullpaperpreamble.tex may be changed — these two files are called from fullpaper.tex).
9. Open the file consent.doc containing the *Consent to Publish & Transfer of Copyright*, fill it out, print it, sign it, scan it and deposit it as a pdf file consent.pdf within the ISMM2007fullpaper folder.
10. Create a ZIP file of the content of the folder ISMM2007fullpaper.
11. Open your the ISMM'2007 Camera-Ready Full Paper Form by accessing the [ISMM'2007 site restricted area](#), submitting your login and password, and clicking *I want to access my works* and then *update*.— updates are possible until July 6th, 2007. **WARNING:** check the author and title field contents. They will be used to create the Author Index. For this reason, they must match with what you inform in the title page of your paper.
12. Attach the ZIP file to the form and press the OK button.

The paper must be in ENGLISH and its size be limited to 12 pages including artwork and references.

The ISMM 2007 final paper has to be prepared in L<sup>A</sup>T<sub>E</sub>X according to the class (style) file ISMM2007proceedings.cls contained in the folder ISMM2007fullpaper.

This sample.pdf document, more precisely the file sampledocument.tex, shows through examples how to build some basic components of a paper such as a figure or a table using L<sup>A</sup>T<sub>E</sub>X.

Please, pay a special attention on how to reference image files (see Section 3), how to form label for making cross-references (see Section 6) and how to form citation keys (see Section 8). This will be important when combining all the full papers for the final book.

## 2. Sub section and lists

### 2.1 Example of a subsection

Below, there are more subsections in this section.

#### Example of a subsubsection

Subsubsections are not numbered in this class.

### 2.2 Unnumbered list using description

**First item.** Vanum est vobis ante lucem surgere: surgite postquam sederitis, qui manducatis panem doloris.

**Second item.** Cum dederit dilectis suis somnum.

### 2.3 Numbered list

See an example in Section 1 (Introduction).

### 2.4 Unnumbered list

- Example of an unnumbered list. Et exultavit spiritus meus in salutari meo. Quia respexit humilitatem ancillae.
- Emittet verbum suum, et liquefaciet ea; flabit spiritus eius, et fluent aquae.

## 3. Figure

**Figure 1** (don't use neither Fig. 1 nor figure 1) is an example of a figure with two subfigures: Figure 1(a) and Figure 1(b).

This figure has been extracted from the work of A. Asano, T. Ohkubo, M. Muneyasu, T. Hinamot entitled: "Texture Primitive Description Using Morphological Skeleton" and presented at ISMM 2002.

Be warned that image files are imported with the `graphicx` package, so the optional argument of the `\includegraphics` command must follow the appropriate syntax (see for example: <http://tex.loria.fr/graph-pack/grf/grf.htm#Q1-1-7>).

The book will be produced using `pdflatex`, so image files must be in PDF, PNG, or JPG (not EPS) format.

The image files should be placed in the folder `ISMM2007fullpaper/images` and must be referenced using the prefix `\fullpaperpdirectory/`. For example, to include the `ISMM2007fullpaper/images/figa.pdf` file, use the command `\includegraphics{\fullpaperpdirectory/images/figa.pdf}`.

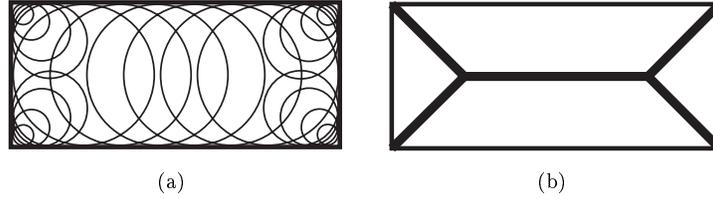


Figure 1. An example of skeletonization. (a) Covering a rectangle with circles. (b) Skeleton (thick lines). (Source: A. Asano, T. Ohkubo, M. Muneyasu, T. Hinamoto, [http://www.cmis.csiro.au/ismm2002/proceedings/PDF/07\\_asano1.pdf](http://www.cmis.csiro.au/ismm2002/proceedings/PDF/07_asano1.pdf))

#### 4. Table

Table 1 (don't use neither Tab. 1 nor table 1) is an example of table.

Table 1. Effects of the two types of scaling proposed by Dennard and Co-Workers.

Parameter	$\kappa$ Scaling	$\kappa, \lambda$ Scaling
Dimension	$\kappa^{-1}$	$\lambda^{-1}$
Currant	$\kappa^{-1}$	$\lambda/\kappa^2$
Dopant Concentration	$\kappa$	$\lambda^2/\kappa$

#### 5. Definition and proposition

For mathematical symbols see for example: <http://www.informatik.uni-leipzig.de/~ulbrich/Sonstiges/symbols-a4.pdf>.

Here are examples of a mathematical definition and a proposition.

In a metric space we can define the concepts of straight-line and sphere. Let  $(E, d)$  be a metric space [3, Definition 7.10]. For any  $x, y \in E$ , and any  $i \in d(\{x\} \times E)$  (i.e., the image of  $x \times E$  through  $d$ ), let us define the following subsets of  $E$ :

$$L_1(x, y) \triangleq \{z \in E : d(x, z) = d(x, y) + d(y, z)\},$$

$$L_2(x, y) \triangleq \{z \in E : d(x, y) = d(x, z) + d(z, y)\},$$

$$L_3(x, y) \triangleq \{z \in E : d(z, y) = d(z, x) + d(x, y)\},$$

and

$$S(x, i) \triangleq \{z \in E : d(x, z) = i\}.$$

**Definition 5.1** (regular metric spaces). Let  $(E, d)$  be a metric space. The metric  $d$  on  $E$  is

- (i) lower regular of type 1 if  $S(x, i) \cap L_1(x, y) \neq \emptyset$ , for any  $x$  and  $y \in E$ , and any  $i \in d(\{x\} \times E)$ , such that  $d(x, y) \leq i$ ;
- (ii) lower regular of type 2 if  $S(x, i) \cap L_2(x, y) \neq \emptyset$ , for any  $x$  and  $y \in E$ , and any  $i \in d(\{x\} \times E)$ , such that  $i \leq d(x, y)$ ;
- (iii) upper regular if  $S(x, i) \cap L_3(x, y) \neq \emptyset$ , for any  $x$  and  $y \in E$ , and any  $i \in d(\{x\} \times E)$ ;
- (iv) regular if it is lower regular (of type 1 and 2) and upper regular. A metric space  $(E, d)$  is *regular* if its metric is regular.

**Proposition 5.1** (generated balls versus inclusion). *Let  $B$  be a finite symmetric ball, then for any  $x$  and  $y$  in  $\mathbb{Z}^2$  and any  $i$  and  $j$  in  $\mathbb{N}$ ,*

- (i)  $x \in (jB)_y \Rightarrow (iB)_x \subset ((i + j)B)_y$ , and
- (ii) *if  $B$  has the closure property, then  $(iB)_x \subset ((i + j)B)_y \Rightarrow x \in (jB)_y$ .*

## 6. How to make cross-references

Section 1 (don't use neither Sec. 1 neither section 1) is the Introduction ... is an example of a cross-reference.

Labels used in your latex files to reference sections, figures, tables must be unique. Since all full papers will be combined for the final book, you **must** prefix your labels with the string `\fullpaperid:`.

For example the key for labeling and referring the Introduction in this document is `\fullpaperid:sec:Introduction`.

In other words, the Introduction is labeled using the L<sup>A</sup>T<sub>E</sub>X command `\label{\fullpaperid:sec:Introduction}` and referred to using the command `\ref{\fullpaperid:sec:Introduction}`.

## 7. How to index

You **must** use the `\Index{...}` command to index words in text (don't use `\index{...}`). The command `\Index{...}` also display the words for you. Don't load the `makeidx` package. Here is an example of indexing and displaying the group of words 'regular metric': `\Index{regular metric}`. Don't index the group of words 'mathematical morphology'.

You should not produce subentry, i.e. the argument of the `\Index{...}` command must not contain the ! character. It must not contain the @ character as well.

## 8. How to cite

[3] is an example of how to cite the Heijmans' book.

Don't forget to implement the bibliographic references with the `amsrefs` package (see <ftp://ftp.ams.org/pub/tex/amsrefs/amsrdoc.pdf>).

Citation keys must also be unique. Since all full papers will be combined for the final book you **must** prefix your citation keys with the first author last name.

For example the citation key for the Heijmans' book in this author instructions (by Banon as first author) must be `Banon:Heijmans:1994:MoImOp` instead of `Heijmans:1994:MoImOp`. If you are the first author of more than one full paper, you **must** prefix the citation keys with a number to distinguish between them, for example, using `1:Banon:Heijmans:1994:MoImOp` in the first full paper and `2:Banon:Heijmans:1994:MoImOp` in the second one.

## References

- [1] Gerald J. F. Banon, *New insight on digital topology*, International Symposium on Mathematical Morphology, 5 (Palo Alto, USA, June 26–28, 2000) (John Goutsias, Luc Vincent, and Dan S. Bloomberg, eds.), Kluwer Academic Publishers, Boston, 2000, Mathematical Morphology and its Applications to Image and Signal Processing, pp. 138–148.
- [2] Gerald J. F. Banon and Junior Barrera, *Bases da morfologia matemática para a análise de imagens binárias*, 2nd ed., INPE, São José dos Campos, 1998. Available from: <http://bibdigital.sid.inpe.br/rep/dpi.inpe.br/banon/1998/06.30.17.56>. Access in: 2003-04-17. rep: dpi.inpe.br/banon/1998/06.30.17.56.
- [3] Henk J. A. M. Heijmans, *Morphological image operators*, Academic, Boston, 1994.
- [4] Jean Serra, *Image analysis and mathematical morphology*, Academic, London, 1982.
- [5] Azriel Rosenfeld and John L. Pfaltz, *Digital functions on digital pictures*, Pattern Recognition **1** (1968), no. 1, 33–61.