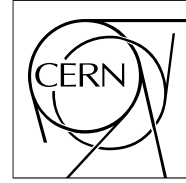**The Compact Muon Solenoid Experiment**

CMS Note

Mailing address: CMS CERN, CH-1211 GENEVA 23, Switzerland

1 April 2005

CMS Paper Template - LaTeX version

A. Author, B. Author, C. Author[a]

CERN, Geneva, Switzerland

D. Author, E. Author[b], F. Author

Institute of Experimental Physics, Hepcity, Wonderland

Abstract

This is a template written in LaTeX, processed with *cmspaper.cls* document class. It is based on the *cernart.cls* and *articlet.cls* classes. The above information, Title and Abstract, should be readable on any computer and should be searchable on the information server. Therefore if the abstract or the title of your note contains Greek characters and mathematical symbols, please send to the CMS secretariat alternative versions which do not contain such characters.

[a] On leave from prison

[b] Now at the Moon

1 CMS papers

There are three kind of CMS papers: "CMS Note", "CMS Internal Note" and "CMS Conference Report". They differ only in the header of the first page, which includes an eps figure different for each kind. One of the following commands must be selected, where yyyy is the current year and xxx is the document number allocated by the CMS secretariat:

```
\cmsnote{yyyy-xxx}
\internalnote{yyyy-xxx}
\conferencereport{yyyy-xxx}
```

Apart from the title and authors some supplementary information can be given on the first page:

```
\collaboration{Physics Analysis Group}
\conference{Presented at {\em Hard Collisions}, Coconut Island, May 2005}
\submitted{Submitted to {\em Physics Rumours}}
\note{Preliminary version}
```

1.1 Subsection

This is an example of subsection

1.1.1 Subsubsection

This is an example of subsubsection

2 Document layout

2.1 Page size, margins and fonts

Use only very standard PostScript fonts:

LaTeX name	roman	sansserif	typewriter
PostScript name	Times	Helvetica	Courrier

European A4 paper size is 210 mm x 297 mm (8.3" x 11.7"). American paper is 6 mm (0.2") wider and 18 mm (0.7") shorter, thus it has 216 mm x 279 mm (8.5" x 11.0"). In this template we have set the LATEX page style parameters as follows:

```
\hoffset and \voffset are reset to 0
\oddsidemargin, \evensidemargin and \marginparwidth = 25mm
\marginparsep is set equal to \baselineskip
\topmargin=20mm, \headheight=0, \headsep=0
\footskip=6mm
\textwidth=16cm
\textheight is set to NN\baselineskip, where NN is 57, 51 or 46 ....
```

These settings lead to margins, measured from the edge of the physical page, as listed in Tab. . In this table "foot" is the space left below the page number (footer).

The paper size used in generating the PostScript file is defined by the *-t papertype* option in *dvips* where *papertype* stands for *a4* or *letter*.

Table 1: Page layout for A4 and US letter formats.

margin	mm					inches				
	left	right	top	bottom	foot	left	right	top	bottom	foot
A4	25	25	20	34	28	1.0	1.0	0.8	1.3	0.9
US letter	25	31	20	16	10	1.0	1.2	0.8	0.6	0.4

2.2 Tables, figures

Small tables can be inside the text in a fixed place, as the table with the font names above. Bigger tables should be defined as floating bodies and have a caption and label as Tab. above.

Figures can be inserted as EPS files using package *graphics*, automaticaly called by *cmspaper.cls*. Specifying both width and height forces both dimensions to be changed. If one of the dimensions is omitted the aspect ratio is preserved. If no one is given, the size is taken from the *%%BoundingBox* (see examples in Fig. and).
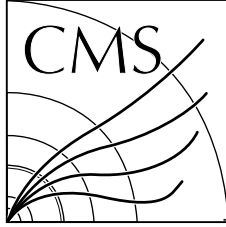
Figure 1: Figure inserted by `\resizebox{3cm}{!}{\includegraphics{cmslogo.eps}}`.
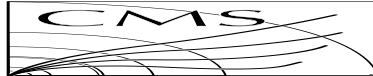
Figure 2: Figure inserted by `\resizebox{5cm}{1cm}{\includegraphics{cmslogo.eps}}`.

Quite often it is convenient to place 2 figures side by side as a single floating body. An environment *2figures* is provided for that (see Fig. and).

Figure 3: The left figure

Figure 4: The right figure

3 Submitting a note

Please follow the rules and procedures defined on the CMSDOC server, or request them by e-mail to:

cmsnotes@cmsdoc.cern.ch

4 Reference example

References should be placed at the end of the note (see example [0]).

References

[1] **CMS Note 2005/000**, X.Somebody et al., *"CMS Note Template"*.

Appendix: A4/US page set-up
-1 -
-2 -
-3 See section 2.1
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