Comments about talks and writing papers

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Overview

- Talks
- Papers
- Writing
- LaTeX tips and tricks
Talks

- Most already in *Silverstein’s* transparencies
- LaTeX packages: `prosper.cls` and `beamer.cls`

This is done using prosper (hacked by me a bit)

I’ll show more tips later

Main one: prosper uses double the distance you give
Papers

- Our output is measured in papers: IMPORTANT
- Communication AND documentation tool
- Also documentation for yourself
- Types: letters, normal articles, review articles and conference proceedings
- Take a lot of time to write
Papers

- Title: should be useful to find out the content
- Authors: usually alphabetically
- Addresses
- Keywords or codes (often PACS: Physics and astronomy classification scheme)
- Preprint number: LU TP 06-54 (binder corridor), astro?
- Abstract: one or two paragraphs
- Introduction
- Middle part
- Discussion and Conclusion
- References
- Appendices
Proofreading and type of text

Keep in mind:

- As simple as possible but not simpler
- As short as possible but not shorter
- Use correct but not too complicated English
- Spell-check and proofread many times
- Connection words: thus, because, since, and, that
- Look out for incomplete sentences
- “the the”
- Remember: writing sentences one at a time: result should read fluently
General rules

Keep in mind:

- Write a paper as you would want to read
- remember reading order:
  1. title
  2. authors
  3. abstract
  4. references (am I cited?)
  5. introduction
  6. conclusions
  7. seldomly more
- Tables and figures will be used by others: should be usable without finecombing the paper
prosper.cls

Overlays plus naturally decent lettersize
Overlays plus naturally decent lettersize and it gives easily the “covering” effect
Discrete symmetries:
- C Charge Conjugation
- P Parity
- T Time Reversal
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Discrete symmetries:

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QCD and QED conserve C,P,T separately,
Weak breaks C and P, only Yukawa breaks CP
Field theory implies CPT
Axodraw and Overpic

**axodraw.sty**

puts a lot of extra stuff inside picture environment

\[
\begin{array}{c}
\pi \\
\rho, S \\
\pi \\
\rightarrow \\
\pi \\
\end{array}
\quad
\begin{array}{c}
|q^2| \\
<< m_{\rho}^2, m_S^2 \\
\end{array}
\quad
C_i^r
\]

a java interface called jaxodraw exists for this

**overpic.sty**

lets you put a picture environment on top of an included picture

very useful with axodraw or pstricks
**Graphics**

```latex
\texttt{graphicx.sty}\n
\includegraphics[angle=90, width=\textwidth, clip] {something.eps}\n\rotatebox{angle}{\{any \ LaTeX \ stuff\}}
```

**Inside eps or ps files (file.eps)**
can change by hand the part which is visible

```latex
%BoundingBox: 50 50 600 400
\texttt{xlowerleft \ ylowerleft \ xupperright \ yupperright}
```

to see what happens `gv -watch file.eps`
Various

fancybox.sty shadowboxes and other fancy things

Note that color changes follow environments

\begin{minipage}[t]{5cm} text or whatever \end{minipage}

\raisebox{1cm}{whatever}

\parbox{text}

$\text{\textbackslash displaystyle\textbackslash left\{ a \minipage \text{\textbackslash right.$}

\rule{width}{height}

width or height = 0 is invisible but pushes stuff around
Latex for a paper

Use the class for the journal you’ll send it to
For the rest as standard LaTeX as possible

\documentclass{article}
\usepackage{latexsym}
% if you want Swedish characters from keyboard:
\usepackage[utf8]{inputenc}
\usepackage{a4wide} % or a4
\usepackage{showkeys} % comment out for final
  % REALLY useful for labels
\begin{document}
\end{document}
Latex for a paper

For equation, reference, figure, section, table numbers

USE LABELS

\label{tab:atablename}
\label{eq:eqname}
\label{fig:figname}
\bibitem{favouritepaper}

Use useful names for your labels

\ref{tab:atablename}
\pageref{tab:atablename}
\ref{eq:eqname}
\ref{fig:figname}
\cite{favouritepaper}

RevTex contains a program reftest.tex for checking the order of references
Latex for a paper

Type your equations **CLEANLY**
you’ll be happy if you discover a misprint in a long equation

Type your text **CLEANLY** you’ll be happy if you need to make changes

**To make pdf files:**

```
pdflatex file.tex
```

produces file.pdf directly but restricted type of graphics i.e. you need to make pdf figures

```
dvips -Ppdf -o file.ps file.dvi
ps2pdf file.ps
```

allows more of the standard ps, axodraw, pstricks (a LaTeX package)
you can run LaTeX from inside emacs (I use AucTeX)

but the standard emacs tex environment is quite useful

turn on syntax highlighting

paren match highlighting