

# Presentations with $\text{\LaTeX}$ : Tips and Tricks

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# Outline

- 1 Introduction
- 2 Slides with  $\text{\LaTeX}$
- 3 Using the beamer Package
- 4 Graphics
- 5 Summary



# Bad Presentations

What makes a **Bad** Presentation?

- Not targeted to audience.
- Not well thought out.
- Time issues.
- Too much on each slide.
- Too many slides.



# Good Presentations

What makes a **Good** Presentation?

- ➊ Targeted to audience, keeps audience engaged.
- ➋ Well thought out.
- ➌ Conveys information.
- ➍ Right on Time.



# Why L<sup>A</sup>T<sub>E</sub>X?

- Mathematicians use L<sup>A</sup>T<sub>E</sub>X for papers.
- L<sup>A</sup>T<sub>E</sub>X typesets mathematics much better than Powerpoint or Word.
- The L<sup>A</sup>T<sub>E</sub>X system is **free!**
- Worry about the content, not font size, placement, etc.
- The L<sup>A</sup>T<sub>E</sub>X system is **FREE!!**
- The end result is an Adobe PDF file, which is extremely portable and can be displayed on almost any platform.



# Choices to Make

- Linux or Windows?



## Choices to Make

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- User Interface - Text editor?



## Choices to Make

- Linux or Windows?
- User Interface - Text editor?
- Output Choices - Presentation or Handout?



# L<sup>A</sup>T<sub>E</sub>X Presentation Support - History

- foiltex
- seminar
- prosper
- beamer



# Framed!

One should generally use one frame per slide.

## A frame

```
\begin{frame}{frame title}  
... blah ...  
\end{frame}
```

## More Choices

- Presentation Themes
  - ▶ With/Without Navigation bars?
  - ▶ Tree-like Navigation bar?
  - ▶ Table of Contents sidebar?
  - ▶ Mini-Frame Navigation?
- Outer Themes
- Inner Themes
- Color Themes
- Font Themes



# Templates, I

## Setup

```
%\documentclass[11pt]{beamer}
%\documentclass[dvips,11pt]{beamer}
% \documentclass[handout,dvips,11pt,gray]{beamer}

% Setup appearance:
% \usetheme{Darmstadt}
% \usetheme{Frankfurt}
% \usetheme{Warsaw}
\usetheme[secheader]{Boadilla}
% \setbeameroption{hide notes}
% \setbeameroption{show notes}
% \setbeameroption{show only notes}
\usefonttheme{onlylarge}{structurebold}
\setbeamertemplate{frametitle}{size=\normalsize,series=\bfseries}
\setbeamertemplate{navigation symbols}{}
\setbeamertemplate{note page}{plain}
```

# Templates, II

## Packages

```
% Standard packages

\usepackage[english]{babel}
\usepackage[latin1]{inputenc}
\usepackage{times}
\usepackage[T1]{fontenc}
\usepackage{pst-all}           % PStricks
\usepackage{graphicx}          % Graphics formats
%\usepackage{multimedia}

%\usepackage{pgfpages}
%\pgfpagesuselayout{4 on 1}[letterpaper,landscape,border shrink=5mm]

%\logo{\includegraphics[width=0.05\textwidth]{utlogo.jpg}}
%\logo{\includegraphics[width=0.05\textwidth]{utlogo.eps} }

% Author, Title, etc.

\title[\LaTeX\ Tips and Tricks]{Presentations with \LaTeX: Tips and Tricks}

\author[Saum]{ Michael A. Saum}
\institute[Dept of Mathematics, UTK]
{Department of Mathematics \\\ The University of Tennessee, Knoxville}

\date[10/10/07]{October 10, 2007}

\begin{document}
... frames ...
\end{document}
```

## Handouts

To print out a presentation (with notes) for handouts, I use the following:

```
\documentclass[handout,dvips,11pt,gray]{beamer}
\usepackage[secheader]{Boadilla}
\setbeameroption{show notes}

\usefonttheme{onlylarge}{structurebold}
\setbeamerfont*{frametitle}{size=\normalsize,series=\bfseries}
\setbeamertemplate{navigation symbols}{}
\setbeamertemplate{note page}{plain}

\usepackage[english]{babel}
\usepackage[latin1]{inputenc}
\usepackage{times}
\usepackage[T1]{fontenc}
\usepackage{pst-all}           % PStricks

\usepackage{pgfpages}
\pgfpagesuselayout{4 on 1}[letterpaper,landscape,border shrink=5mm]
```

# Getting output

## Windows

If on windows using the winedt text editor, one should press the "texify" (or pdf texify) button, depending on whether one is using postscript or not.

# Getting output

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## Linux, postscript

```
latex filename (twice)  
dvips filename -o  
ps2pdf13 filename
```



# Getting output

## Windows

If on windows using the winedt text editor, one should press the "texify" (or pdf texify) button, depending on whether one is using postscript or not.

## Linux, postscript

```
latex filename (twice)  
dvips filename -o  
ps2pdf13 filename
```

## Linux, pdf

```
pdflatex filename (twice)
```



## Type of Graphics

- Inserting graphics into a presentation is a **good** idea, i.e., sometimes a picture is really worth a thousand words.
- $\text{\LaTeX}$  has available a number of packages which allow for simple drawings to be done within the  $\text{\LaTeX}$  document itself.
- $\text{\LaTeX}$  also has available packages which allow for importing of external document files, such as `.ps`, `.eps`, `.jpg`, `.gif`, etc.
- `beamer` allows for inclusion of "movies" in a presentation also.

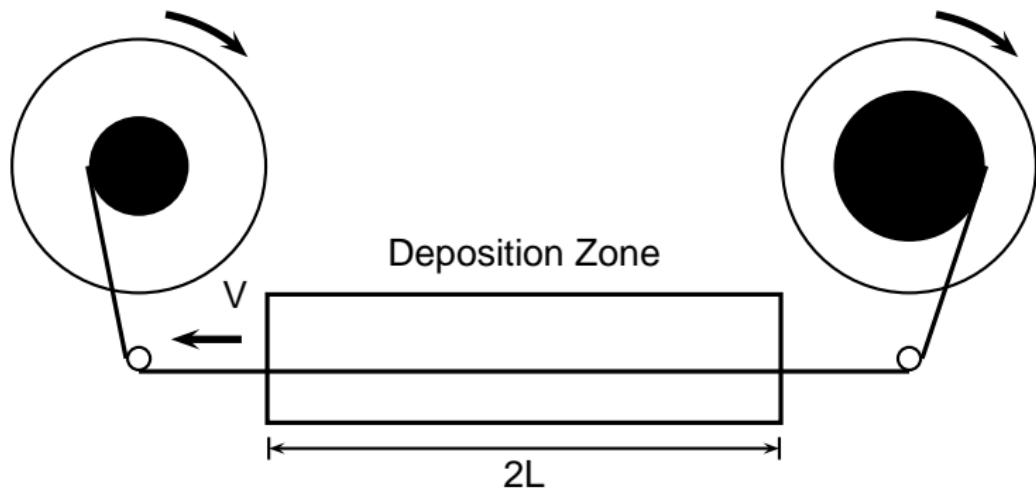


## Guidelines

- If one is including only external `.ps` or `.eps` files, then one should not use `pdfLATEX`.
- To include external graphics files, use the `graphicx` package and scale the included graphic by some fraction of the "textwidth" variable.
- One should ensure that all external graphics files to be included are of the same type.
- If one is required to "draw" simple diagrams, I recommend using the `PStricks` (postscript) or the `pgf/TikZ` (non-postscript) package.
- For graphs or charts, make sure the labels are readable.

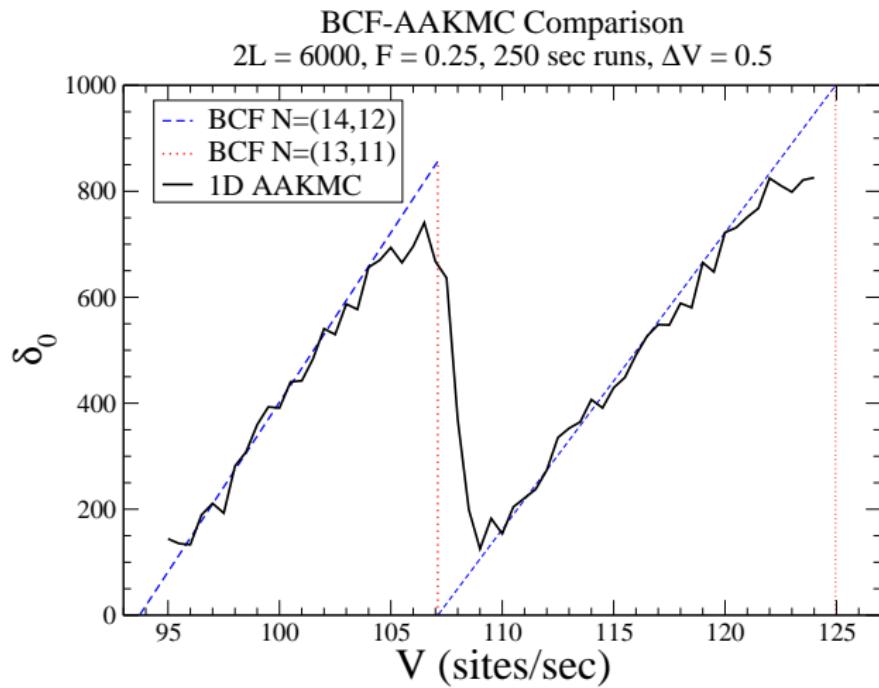


## Sample Drawing with PStricks



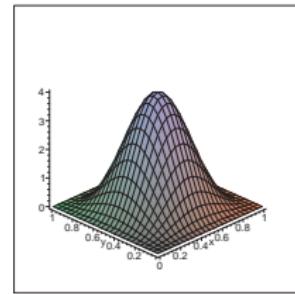
Simple Reel-to-Reel Processing System (side view)

## Sample Inclusion of External Graphic



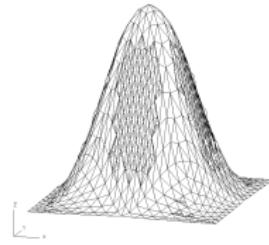
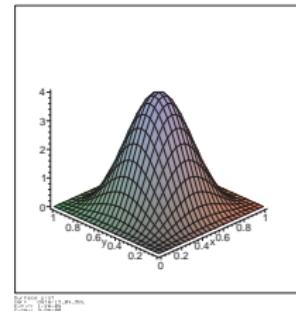
# Columns

Exact Solution



# Columns

Exact Solution  
Computed Solution



# Movies

- f6d2a est – UNIX
- f6d2a est – Windoze



## Comments

- There are many different ways of accomplishing the same task with  $\text{\LaTeX}$ . Once one finds something that works, stick with it until one finds a better way of doing it.
- One should definitely explore different themes with `beamer`. Make extensive use of the references listed at the end.
- Putting too many fancy things into a presentation takes away from the purpose of the presentation, i.e., the content. Sometimes basic is better.
- With `beamer` flexibility is the key. Note that `beamer` provides a powerful alternative to using Microsoft Powerpoint.



## References

- beamer documentation
  - ▶ `/usr/share/texmf/tex/latex/beamer/doc`
  - ▶ `/usr/share/texmf/tex/latex/beamer/examples`
  - ▶ `/usr/share/texmf/tex/latex/beamer/solutions`
  - ▶ `/usr/share/texmf/tex/latex/beamer/themes`
- PStricks: <http://tug.org/PSTricks/>
- pgf/TikZ:  
`/usr/share/texmf/tex/latex/pgf/doc/generic/pgf`
- $\text{\LaTeX}$  Navigator: <http://tex.loria.fr/>