

PSTricks

pst2pdf

Running a PSTricks document with pdflatex;
v. 0.14

March 10, 2013

pst2pdf

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1 Introduction

PSTricks as PostScript related package uses the programming language PostScript for internal calculations. This is an important advantage, because floating point arithmetic is no problem. Nearly all mathematical calculation can be done when running the DVI-file with Ghostscript. However, creating a PDF file in a direct way with pdf_latex is not possible. pdf_latex cannot understand the PostScript related stuff.

Instead of running pdf_latex one can use the perl *script* pst2pdf, it extracts all PSTricks related code into single documents with the same preamble as the original main document.

The pst2pdf *script* runs document, clips all whitespace around the image and creates a .pdf (and .eps, .ppm) image of the PSTricks related code. In a last run which is the pdf_latex the PSTricks code in the main document is replaced by the created images.

2 Requirements

2.1 Programs needed

pst2pdf needs pdftk, ImageMagick and poppler-utils (or xpdf-utils) for the process file in usual way. If you need a create .pdf image files (without related software) use single mode (see 3.2).

2.2 Preparing file

The script scan the file for pspicture and postscript environments, which are then taken with its contents from the main file to create stand alone documents with the same preamble as the main document. The pspicture environment can be nested, the postscript one not! But it can contain an environment pspicture, but not vice versa. The postscript environment should always be used, when there is some code before a pspicture environment or for some code which is not inside of a pspicture environment.

Put all related PSTricks package in separate lines in your preamble, pst2pdf delete all lines contains PSTricks package before last run.

This is an example of environments that support for pst2pdf:

<code>\pspicture*</code>	<code>\begin{pspicture}</code>	<code>\begin{pspicture*}</code>	<code>\begin{postscript}</code>
<code>\psset{...}</code>	<code>\psset{...}</code>	<code>\psset{...}</code>	<code>\psset{...}</code>
<code>pstricks code</code>	<code>pstricks code</code>	<code>pstricks code</code>	<code>pstricks code</code>
<code>\endpspicture</code>	<code>\end{pspicture}</code>	<code>\end{pspicture*}</code>	<code>\end{postscript}</code>

3 Running the script

3.1 Default mode

The general syntax for the perl *script* is simple:

```
perl pst2pdf file.tex -options
```

For T_EXLive users:

```
pst2pdf file.tex -options
```

3.2 Single mode

If pst2pdf can not process a file, used the option -single this process will create the file, without pdftk (take a more time to create images files) by default create PDF files. For example:

```
pst2pdf file.tex -pdf -single
```

create file-pdf.pdf and file-pst-1.pdf, file-pst-2.pdf, file-pst-...pdf for all pspicture and postscript environments in the directory for the created images (see 4).

4 Options

The options listed in Table 1 refer only to the *script* and not the \LaTeX file.

Table 1: Optional arguments for pst2pdf

<i>name</i>	<i>values</i>	<i>default</i>	<i>description</i>
-imageDir	literal	images/	the directory for the created images.
-Iext	literal	.pdf	the extension for PrependGraphicsExtensions.
-DPI	integer	75	the dots per inch for a created .ppm file.
-Iscale	real	1	the value for the option scale in \includegraphics.
-eps	boolean	0	creates .eps images files (need pdftops).
-ppm	boolean	0	creates .ppm images files (need pdftoppm).
-files	boolean	0	creates .tex for all images.
-verbose	boolean	1	for a long pst2pdf log.
-norun	boolean	0	create files, but no compile.
-clear	boolean	0	delete all temporary files.
-help	boolean	1	print help and exit.
-single	boolean	0	create images type (without pdftk).
-all	boolean	0	generate all image type (.pdf, .eps, .tex).
-version	boolean	0	print version and exit.
-license	boolean	0	print license and exit.
-xetex	boolean	0	using xelatex instead of latex for the process.
-noImages	boolean	0	generate files but no images (need -norun).
-runBibTeX	boolean	0	runs bibtex
-runBiber	boolean	0	runs biber if a file with extension .bcf exists

For Help in command line use:

```
pst2pdf -help
```

5 Other image format

If you need .png, .jpg or other image type use pst2pdf file.tex -ppm, then move to images dir and use mogrify command (from ImageMagick), for examples:

```
mogrify -format png *.ppm
```

generate PNG images files and

```
mogrify -format jpg *.ppm
```

generate JPG images files.

References

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