

pst2pdf

Running a PSTricks document with pdflatex;
v1.8

Herbert Voß
Pablo González Luengo

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pst2pdf run a T_EX *source*, read all postscript, pspicture, psgraph and PSTexample environments and convert in images pdf,eps,jpg,svg or png format (default pdf), extract source code and create new file with all environments converted to `\includegraphics` and runs (pdf/Xe/lua)latex.

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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 pdflatex is not possible. pdflatex cannot understand the PostScript related stuff.

Instead of running pdflatex 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 images of the PSTricks related code.

In a last run which is the pdflatex the PSTricks code in the main document is replaced by the created images.

2 License

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3 Requirements

For the complete operation of pst2pdf you need to have a modern T_EX distribution such as T_EX Live or MiK_TE_X, have a version equal to or greater than 5.28 of perl, a version equal to or greater than 9.24 of Ghostscript and have a version equal to or greater than 0.52 of poppler-utils. The distribution of T_EX Live 2020 for Windows includes pst2pdf and all requirements, MiK_TE_X users must install the appropriate software for full operation.

The script has been tested on Windows (v10) and Linux (fedora 32) using Ghostscript v9.52, poppler-utils v0.84, perl v5.30 and the standard classes offers by L^AT_EX: book, report, article and letter. The preview and pst-pdf packages are required to process the *<input file>* and if an *<output file>* is generated, the graphicx and grfext packages will be needed.

3.1 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.

pst2pdf delete al lines contains PSTricks package before last run, if you need delete other PSTricks code in preamble use:

```
%CleanPST
some psticks code
%CleanPST
```

4 Environments support

pst2pdf support fourth environments in default and single way:

<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>

Note: When using the default mode, images are created using Ghostscript and preview package, in this case, it is not necessary to write `psset` into PSTricks environment.

5 Running the script

5.1 Default mode

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

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

For T_EXLive users:

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

In this way pst2pdf creates a new file called *file-pst.tex* and copy all pspicture and postscript environments, then processed and create file-pdf.pdf and file-fig-1.pdf, file-fig-2.pdf, file-fig-....pdf and file-fig-1.tex, file-fig-2.tex, file-fig-....tex for all pspicture and postscript using Ghostscript.

5.2 Single mode

If you do not have Ghostscript use the option -np, -single in this mode, the files are processed separately (take a more time to create images files). For example:

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

create file-pdf.pdf and file-fig-1.pdf, file-fig-2.pdf, file-fig-....pdf and file-fig-1.tex, file-fig-2.tex, file-fig-....tex for all pspicture and postscript environments (see 6).

6 Options

The options listed in Table 1 refer only to the *script* and not the L^AT_EX file.

For Help in command line use:

```
pst2pdf -help
```

7 Other image format

If you need to create other image formats use pst2pdf, move to images dir and use mogrify command (from ImageMagick), for examples:

```
mogrify -format tiff *.ppm
```

generate .tiff images files.

Table 1: Optional arguments for pst2pdf

<i>name</i>	<i>values</i>	<i>default</i>	<i>description</i>
-h,-help	boolean	1	print help and exit.
-l,-license	boolean	0	print license and exit.
-v,-version	boolean	1	print version and exit.
-m,-margins	literal	1	margins for pdfcrop (in bp).
-d,-dpi	integer	300	the dots per inch for a created .ppm file.
-j,-jpg	boolean	0	creates .jpg images (need Ghostscript).
-p,-png	boolean	0	creates .png images (need Ghostscript).
-e,-eps	boolean	0	creates .eps images (need pdftops).
-s,-svg	boolean	0	creates .ppm images (need pdf2svg).
-P,-ppm	boolean	0	creates .ppm images (need pdftoppm).
-c,-clear	boolean	0	delete all temporary files.
-a,-all	boolean	0	generte all images type and clear.
-x,-xetex	boolean	0	using xelatex instead of latex for process.
-np,-single	boolean	0	create images type (whitout Ghostscript).
-ni,-noimages	boolean	0	generate file-pdf.tex, but no images.
-ns,-nosource	boolean	0	delte all source for images.
-imgdir	literal	images/	the directory for the created images.
-ignore	literal	other	skip other verbatim environment.
-Verbose	boolean	1	for a long pst2pdf log.
-bibtex	boolean	0	runs bibtex.
-bibtex	boolean	0	runs biber if a file with extension .bcf exists.

References

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