

News - 2018

new macros and bugfixes for the basic package pstricks

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Part I.

pstricks – package

1. pstricks.sty – pstricks-pdf.sty

There is now a new optional argument for the package: `ckeckengine`, which will be used in later versions.

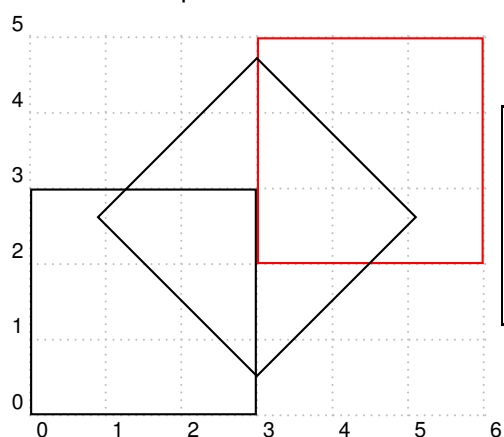
2. pstricks-tex.tex

This package collects all additional latex macros which must be defined when running PSTricks with tex. They all moved from the base `pstricks.tex` into this new file.

3. pstricks.tex (v. 2.89 – 2018/12/16)

Use the `\long` definition for `\@fornoop` to be compatible to the latest changes in L^AT_EX.

In old versions the macro `\rput` can't be used with the key-value setting. The latest version of `pstricks.tex` defines a modified `\rput` which checks first if a following optional argument has the old behaviour, eg `\rput[lb]{...}` or a key/value setting like `\rput[ref=lb,rot=...](...)`. However, there should be no change in the output and, of course, it makes no sense to mix the old and new setting in *one* `\rput` macro. The setting refers only to the optional arguments which are valid for `\rput`:



```
\begin{pspicture}[showgrid](6,5)
\rput[ref=rt](3,2){%
  \psframe[linecolor=red](3,3)}
\rput[lb](0,0){\psframe(3,3)}
\rput{45}(3,0.5){\psframe(3,3)}
\end{pspicture}
```

3.1. PostScript Fonts

This version of PSTricks uses the Ghostscript fonts from URW instead of the original base 14 fonts of PostScript. For example: instead of Helvetica we use NimbusSanL-Regu. The URW fonts are always embedded in the created ps or pdf output. This is not the default for the PostScript fonts. You change this setting with the optional argument to `pstricks.sty`.

3.2. Error message

Using PSTricks with `pdflatex` will work only when using package `auto-pst-pdf` and running the T_EX-file with

```
pdflatex -shell-escape <file>
```

otherwise you'll get an error message which was misleading in the past:

```
[...]
! Undefined control sequence.
<recently read> \c@lor@to@ps
```

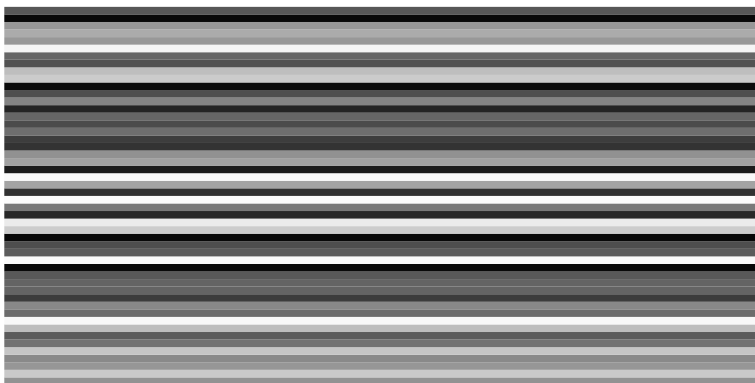
This changes now to

```
[...]
! Undefined control sequence.
\c@lor@to@ps ->\PSTricks
      _Not_Configured_For_This_Format
```

3.3. Random colors

There are now four predefined random "colors":

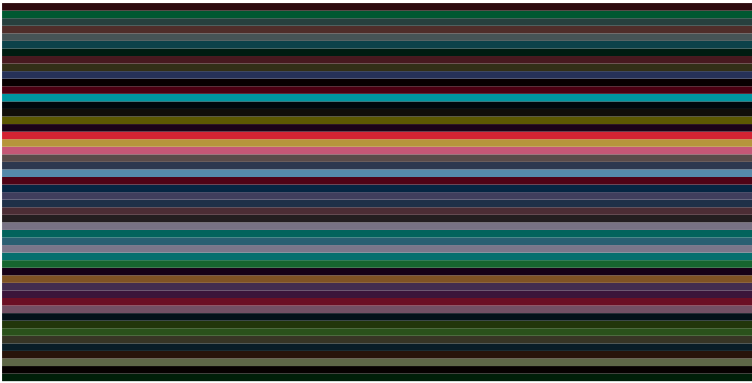
```
\definecolor[ps]{randomgray}{gray}{Rand}%
\definecolor[ps]{randomrgb}{rgb}{Rand Rand Rand}%
\definecolor[ps]{randomcmymk}{cmyk}{Rand Rand Rand Rand}%
\definecolor[ps]{randomhsb}{hsb}{Rand Rand Rand}%
```



```
\begin{pspicture}(10,5)
\multido{\rA=0.0+0.1}{50}{\psline[linecolor=randomgray,linewidth=1mm](0,\rA)(10,\rA)}
\end{pspicture}
```



```
\begin{pspicture}(10,5)
\multido{\rA=0.0+0.1}{50}{\psline[linecolor=randomrgb,linewidth=1mm](0,\rA)(10,\rA)}
\end{pspicture}
```



```
\begin{pspicture}(10,5)
\multido{\rA=0.0+0.1}{50}{\psline[linecolor=randomcmyk,linewidth=1mm](0,\rA)(10,\rA)}
\end{pspicture}
```



```
\begin{pspicture}(10,5)
\multido{\rA=0.0+0.1}{50}{\psline[linecolor=randomhsb,linewidth=1mm](0,\rA)(10,\rA)}
\end{pspicture}
```

The random counter can be initialized with `\pstVerb{rrand srand}`.

3.4. Optional argument xetex

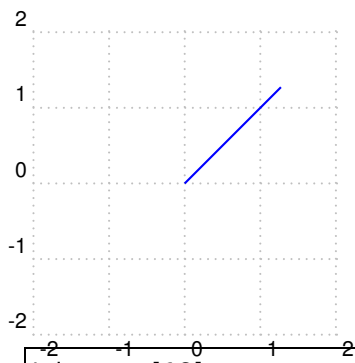
The output driver `xdvipdfmx` for using $\text{X}\text{_}\text{E}\text{_}\text{T}\text{_}\text{E}\text{_}\text{X}$ or $\text{X}\text{_}\text{E}\text{_}\text{L}\text{_}\text{A}\text{_}\text{T}\text{_}\text{E}\text{_}\text{X}$ is not fully compatible to `dvips`. Especially some node operations will not work. If the $\text{L}\text{_}\text{A}\text{_}\text{T}\text{_}\text{E}\text{_}\text{X}$ package detects a programm run with $\text{X}\text{_}\text{E}\text{_}\text{L}\text{_}\text{A}\text{_}\text{T}\text{_}\text{E}\text{_}\text{X}$ it automatically loads the file `pstricks-xetex.def` which defines some macros with a new name to keep the existing ones. By now there is only `\NCput`, which is the same as `\ncput`, but works with $\text{X}\text{_}\text{E}\text{_}\text{L}\text{_}\text{A}\text{_}\text{T}\text{_}\text{E}\text{_}\text{X}$.

If someone wants to use these macros though he/she runs not $\text{X}\text{_}\text{E}\text{_}\text{L}\text{_}\text{A}\text{_}\text{T}\text{_}\text{E}\text{_}\text{X}$ then these macros are available too by using the optional argument `xetex`:

```
\usepackage[xetex]{pstricks}
```

4. pstricks.pro

A full circle has by default an angle of 360 degrees. Setting the circle with `\degrees[17]` to another value doesn't work for the PostScript function `PtoC` (Polat to Cartesian – $(r, \phi) \rightarrow (x, y)$). Now there is a `PtoCrel` for the new definition which now takes the setting of `\pst@angleunit` into account.



```
\degrees[16]
\begin{pspicture}[showgrid](-2,-2)(2,2)
\psline[linecolor=blue](!1.8 2 PtoCrel)% 45 degrees
\end{pspicture}
```

The command `\framed` was build by clockwise line sequence. Now it is the other way round to get the same behaviour as for all other commands with closed lines.

There are some new PS functions

```
/AnytoDeg { pst@angleunit } def
/DegtoAny { 1 pst@angleunit div } def
/AnytoRad { AnytoDeg DegtoRad } def
/RadtoAny { RadtoDeg DegtoAny } def
```

See `pst-node` documentation for an example.

References

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- [3] Nikolai G. Kollock. *PostScript richtig eingesetzt: vom Konzept zum praktischen Einsatz*. Vaterstetten: IWT, 1989.
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