

## News - 2017

**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: `psfonts`. If it is enabled PSTricks will use the original PostScript fonts like Helvetica, Times, . . . . The default is to use the URW fonts (Nimbus Roman, Nimbus Sans, . . . ) which are embedded by default! The PostScript fonts are only embedded if present on your system.

### 2. pstricks.tex (v. 2.76 – 2017/09/17)

#### 2.1. 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`.

#### 2.2. Error message

Using PSTricks with `pdflatex` will work only when using package `auto-pst-pdf` and running the  $\TeX$ -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
```

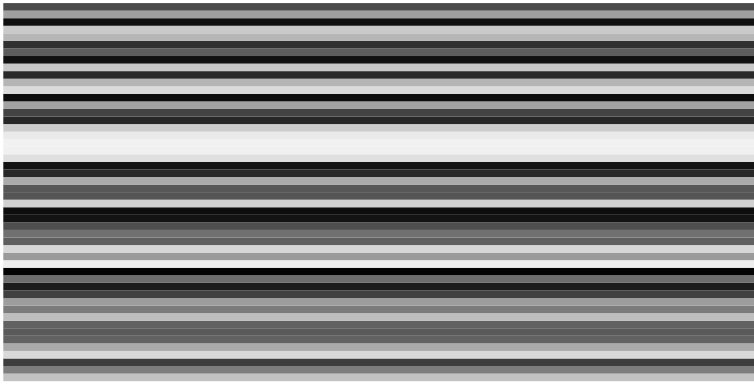
This changes now to

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

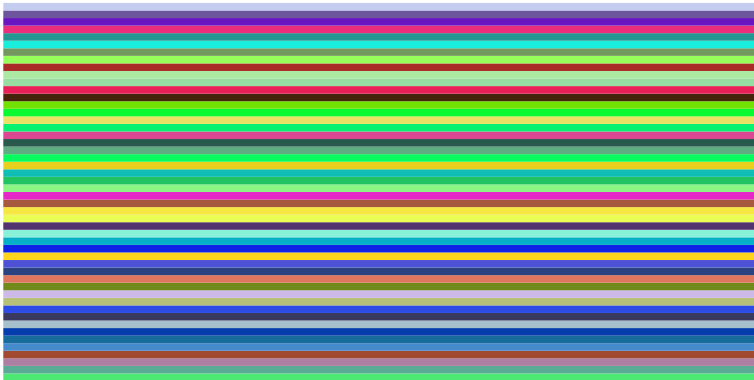
#### 2.3. Random colors

There are now four predefined random "colors":

```
\definecolor[ps]{randomgray}{gray}{Rand}%
\definecolor[ps]{randomrgb}{rgb}{Rand Rand Rand}%
\definecolor[ps]{randomcmyk}{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}
```

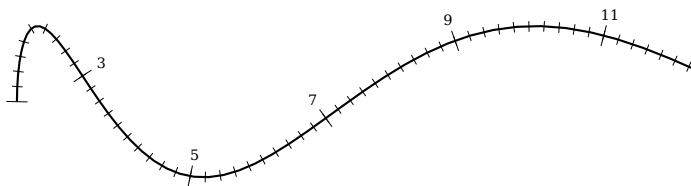


```
\begin{pspicture}(10,5)
\multido{\rA=0.0+0.1}{50}{\psline[linecolor=randomhsb,linewidth=1mm](0,\rA)(10,\rA)}
\end{pspicture}
```

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

## 2.4. refangle

This version fixes a bug with `pst@refangle` which is used inside PostScript.



```
\begin{pspicture}(-1,-1)(10,3.5)
\psparametricplot[algebraic]{0}{9}{t^2/9 | sin(t)+1}%
\pscurvepoints{0}{9}{(t^2)/9 | sin(t)+1}{P}%
\pspolylineticks[metricInitValue=1,ticks=-2pt 2pt,0s=1,Ds=.2]{P}{ ds }{1}{56}%
\pspolylineticks[metricInitValue=1,0s=1,Ds=2]{P}{ ds }{0}{6}%
\multido{\iA=1+1,\iB=3+2}{5}{\Put{6pt;(PNormal\iA)}(PTick\iA){\tiny \iB}}
\end{pspicture}
```

There is a new optional argument `draft` which has the same meaning as the one for `\includegraphics`. The PSTricks image is not drawn, only the area of the `pspicture` coordinates is seen by a rectangle (only for  $\text{\LaTeX}$ ).



```
\psset{draft}
\begin{pspicture}(-1,-1)(10,3.5)
\psparametricplot[algebraic]{0}{9}{t^2/9 | sin(t)+1}%
\pscurvepoints{0}{9}{(t^2)/9 | sin(t)+1}{P}%
\pspolylineticks[metricInitValue=1,ticks=-2pt 2pt,0s=1,Ds=.2]{P}{ ds }{1}{56}%
\pspolylineticks[metricInitValue=1,0s=1,Ds=2]{P}{ ds }{0}{6}%
\multido{\iA=1+1,\iB=3+2}{5}{\Put{6pt;(PNormal\iA)}(PTick\iA){\tiny \iB}}
\end{pspicture}
```

## 2.5. \newsstyle

The command `\newsstyle` has a new syntax:

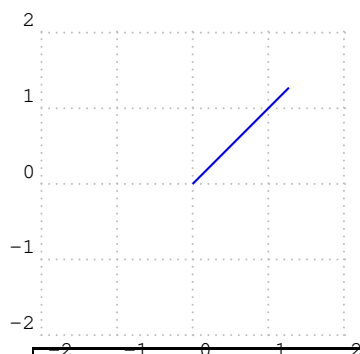
```
\newsstyle [package name] {name}{definitions}
```

For example

```
\newsstyle[pst-shell]{Epitonium}{D=1,A=9.5,alpha=85.9,beta=9,mu=0,omega=0,
phi=81,a=2.1,b=1.6,L=1.3,P=-60,W1=200,W2=20,N=8.3}
```

## 3. 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 PtoC360 for the old definition and a PtoC 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 PtoC)% 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.

## References

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