PSTricks

News - 2013

new macros and bugfixes for the basic package `pstricks`

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2013

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I. `pstricks` – package

Part I.
pstricks – package

1. `pstricks.sty`

There are new optional arguments `monochrome` and `grayscale` to convert *all* RGB and CMYK colors into black and white or grayscale. The equations are:

1.1. RGB to gray

$$\text{gray} = 0.07\text{red} + 0.71\text{green} + 0.21\text{blue}$$

1.2. CMYK to gray

$$\begin{aligned}
c &= c(1-k)+k\\
m &= m(1-k)+k\\
y &= y(1-k)+k\\
r,g,b &= (1-c),(1-m),(1-y)\\
\text{gray} &= 0.299r + 0.587g + 0.114b
\end{aligned}$$

See also section 2.5 on the following page for a local change of the color output.

2. `pstricks.tex` (2.43– 2013/05/12)

There is a new optional argument `pgffunctions` for the environment `pspicture`. With this option one can force the loading of the special pgf PostScript function which in some cases are missing, when using the package `auto-pst-pdf` and another package which uses pgf macros.

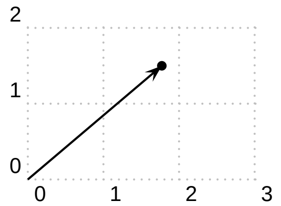
```
\begin{pspicture}[pgffunctions,...](...)(...)
```

2.1. labelsep

The `labelsep` is the first – optional – argument of `\uput`. It is now possible to use the PostScript notation for this *length*, eg `{! 45 sin 3 mul}`. Then the unit which is active when `\uput` is active is used. With a unit the PS notation ist not allowed and leads to an error!

2.2. Coordinates

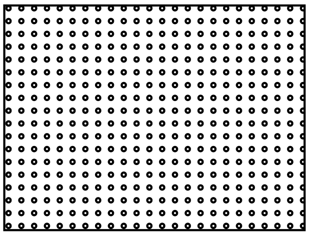
Additionally to the special pair of coordinates `(*x f(x))` where x must be a value in PostScript notation and $f(x)$ in algebaric noatation, there is now a `(+{x}, {f(x)})`. Both expressions must be in algebraic notation and `{x}` must expand to a value or an expression which uses known system or user defined PostScript functions.



```
\begin{pspicture}[showgrid](3,2)
\pnode(+{sqrt(Pi)},{1.5*(sin(x)^2+cos(x)^2)}){A}
\psdot(A)
\psline[arrowscale=1.5]{->}(A)
\end{pspicture}
```

2.3. Fillstyle dots

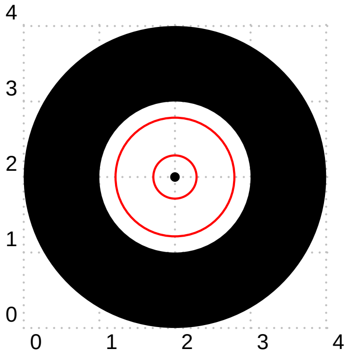
A fix for the fill style `dots` to make it work again:



```
\pspicture(4,3)
\psframe[fillstyle=dots](4,3)
\endpspicture
```

2.4. New macro `\psRing`

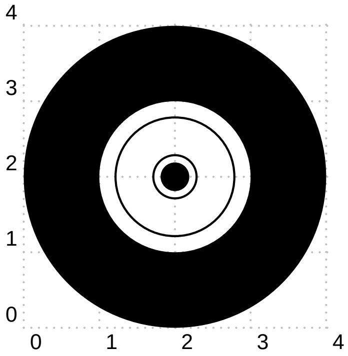
`\psRing` `*` `[Options]` (x,y){*Inner Radius*}{*Outer Radius*}



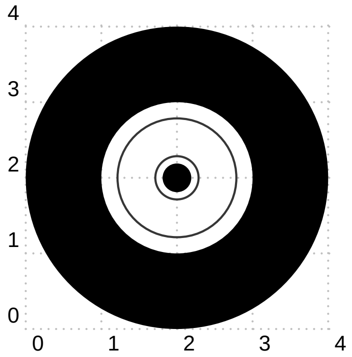
```
\begin{pspicture}[showgrid](4,4)
  \psRing[linecolor=red](2,2){0.3}{0.8}
  \psRing*[opacity=0.5](2,2){1}{2}
\psdot(2,2)
\end{pspicture}
```

2.5. New macros `\pssetMonochrome`, `\pssetGrayscale`, and `\psresetColor`

```
\pssetMonochrome
\pssetGrayscale
\psresetColor
```



[redacted]



[redacted]

3. The PostScript header files

3.1. `pstricks.pro`

Part II.
Other packages

4. `pst-node` – version 1.45 | 2013/04/29

```
1.27 2013-04-12 - added macro \Cnodeput which takes radius=...  into account
1.26 2013-04-09 - added macros \psncurve and \psnccurve for a sequence of nodes
created by \curvepnodes
1.25 2012-09-21 - Global node coordinates only with saveNodeCoors
```

References

[1] Michel Goosens, Frank Mittelbach, Sebastian Rahtz, Denis Roegel, and Herbert Voß. *The LaTeX Graphics Companion*. Addison-Wesley Publishing Company, Reading, Mass., 2007.

[2] Laura E. Jackson and Herbert Voß. Die Plot-Funktionen von `pst-plot`. *Die TeXnische Komödie*, 2/02:27–34, June 2002.

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

[4] Herbert Voß. Die mathematischen Funktionen von Postscript. *Die TeXnische Komödie*, 1/02:40–47, March 2002.

[5] Herbert Voss. *PSTricks Support for pdf*. `http://PSTricks.tug.org/main.cgi?file=pdf/pdfoutput`, 2002.

[6] Herbert Voß. *LaTeX Referenz*. DANTE – lehmanns media, Heidelberg/Hamburg, 2. edition, 2010.

[7] Herbert Voß. *`PSTricks` – Grafik für TeX und LaTeX*. DANTE – Lehmanns Media, Heidelberg/Hamburg, 6. edition, 2010.

[8] Herbert Voß. *LaTeX Quick Reference*. UIT, Cambridge/UK, 1. edition, 2011.

[9] Herbert Voß. *`PSTricks` – Graphics for LaTeX*. UIT, Cambridge/UK, 1. edition, 2011.

[10] Michael Wiedmann and Peter Karp. *References for TeX and Friends*. `http://www.miwie.org/tex-refs/`, 2003.

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