PSTricks

News - 2012

new macros and bugfixes for the basic package pstricks

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Contents

Part I.
pstricks – package

1. General

There exists a new document class pst-doc for writing PSTricks documentations, like this news document. It depends on the KOMA-Script document class scrartcl. pst-doc defines a lot of special macros to create a good index. Take one of the already existing package documentation and look into the source file. Then it will be easy to understand, how all these macros have to be used.

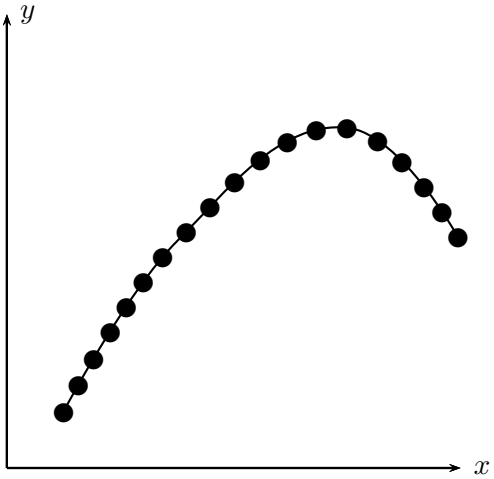
When running pdflatex the title page is created with boxes and inserted with the macro \AddToShipoutPicture from the package eso-pic. It inserts the background title page image pst-doc-pdf to use directly pdflatex. When running latex the title page is created with PSTricks macros.This allows to use the Perl script pst2pdf or the package pst-pdf or auto-pst-pdf or any other program/package which supports PostScript code in the document.

2. pstricks.sty

2.1. New optional argument

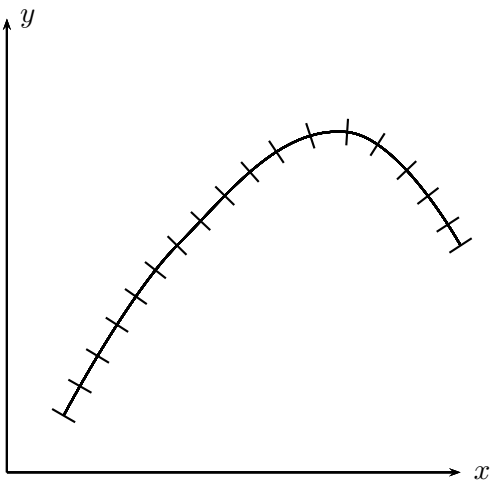
3. pstricks.tex (2.24– 2012/02/09)

The optional argument symbol for a linestyle can now be set with a negative symbolstep for a computed width of the steps:

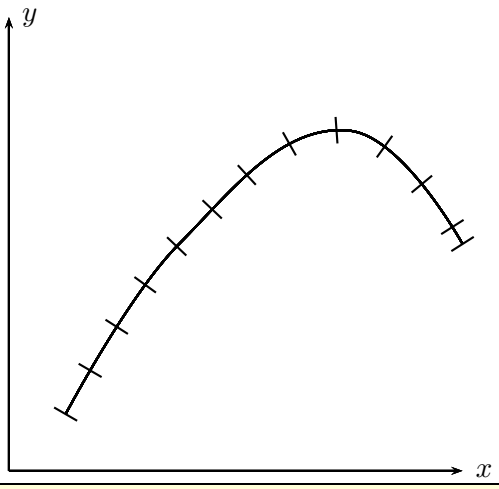



```
\psset{unit=0.75cm}
\begin{pspicture}(8,8)
\psaxes[labels=none,ticks=none]{->}(0,0)(8,8)[$x$,0][$y$,0]
\pscurve(1,1)(3,4)(6,6)(8,4)
\pscurve[linestyle=symbol,symbolStep=-20,symbol=l](1,1)(3,4)(6,6)(8,4)
\end{pspicture}
```

Instead of setting a symbol it is possible to set ticks on the curve with `curveticks`. They can be set by a fixed width or a computed width if the `symbolStep` is set by a negative number without a unit.




```
\psset{unit=0.75cm}
\begin{pspicture}(8,8)
\psaxes[labels=none,ticks=none]{->}(0,0)(8,8)[$x$,0][$y$,0]
\pscurve(1,1)(3,4)(6,6)(8,4)
\pscurve[linestyle=symbol,symbolStep=12.25pt,
 curveticks,startAngle=60](1,1)(3,4)(6,6)(8,4)
\end{pspicture}
```




```
\psset{unit=0.75cm}
\begin{pspicture}(8,8)
\psaxes[labels=none,ticks=none]{->}(0,0)(8,8)[$x$,0][$y$,0]
\pscurve(1,1)(3,4)(6,6)(8,4)
\pscurve[linestyle=symbol,symbolStep=-12,
 curveticks,startAngle=60](1,1)(3,4)(6,6)(8,4)
\end{pspicture}
```

4. The PostScript header files

4.1. pstricks.pro

The file pst-tools.pro contains additional helper functions:

```
/factorial { % n on stack, returns n!
/MoverN { % m n on stack, returns the binomial coefficient m over n
/cxadd {    % [a1 b1] [a2 b2] = [a1+a2 b1+b2]
/cxneg {    % [a b]
/cxsub { cxneg cxadd } def % same as negative addition
/cxmul {    % [a1 b1] [a2 b2]
/cxsqr {    % [a b] square root
/cxsqrt {   % [a b]
/cxarg {    % [a b]
/cxlog {    % [a b]
/cxnorm2 {  % [a b]
/cxnorm {   % [a b]
/cxconj {   % conjugent complex
/cxre { 0 get } def % real value
/cxim { 1 get } def % imag value
/cxrecip {  % [a b]
/cxmake1 { 0 2 array astore } def % make a complex number, real given
/cxmake2 { 2 array astore } def % dito, both given
/cxdiv { cxrecip cxmul } def
/cxrmul {   % [a b] r
/cxrdiv {   % [a b] r
/cxconv {   % theta
/bubblesort { % on stack must be an array [ ... ]
/concatstringarray{ % [(a) (b) ... (z)] --> (ab...z) 20100422
/dot2comma {% on stack a string (...)
```

5. List of all optional arguments for pstricks

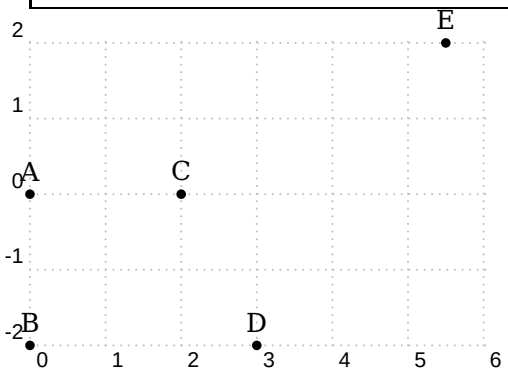
Key	Type	Default

Part II.
Other packages

6. pst-node – version 1.37 | 2012/01/10

The command \pnode now knows an optional argument for an offset, which expects two values (x,y) separated by a comma:

\pnode [⟨*offset*⟩] (*x*,*y*){⟨*node name*⟩}




```
\begin{pspicture}[showgrid](0,-2)(6,2)
\pnode{A}\psdot(A)\uput[90](A){A}
\pnode[0,-2]{B}\psdot(B)\uput[90](B){B}
\pnode(2,0){C}\psdot(C)\uput[90](C){C}
\pnode[1,-2](2,0){D}\psdot(D)\uput[90](D){D}
\pnode[2,2](3.5,0){E}\psdot(E)\uput[90](E){E
  }
\end{pspicture}
```

References

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[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.

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

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

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