Color

5 \newgray{*color*}{*num*}

5 \newrgbcolor{*color*}{*num1 num2 num3*}

5 \newhsbcolor{*color*}{*num1 num2 num3*}

5 \newcmykcolor{*color*}{*num1 num2 num3 num4*}

Setting graphics parameters

6 \psset{*par1=value1*,*par2=value2*,...}

Dimensions, coordinates and angles

7 unit=*dim* Default: 1cm

7 \pssetlength{*cmd*}{*dim*}

7 \psaddtolength{*cmd*}{*dim*}

7 xunit=*dim* Default: 1cm

7 yunit=*dim* Default: 1cm

7 runit=*dim* Default: 1cm

8 \degrees[*num*]

8 \radians

Basic graphics parameters

8 linewidth=*dim* Default: .8pt

8 linecolor=*color* Default: black

9 showpoints=*true/false* Default: false

Lines and polygons

10 linearc=*dim* Default: 0pt

10 framearc=*num* Default: 0

10 cornersize=*relative/absolute* Default: relative

10 \psline*[*par*]{*arrows*}(*x0*,*y0*)(*x1*,*y1*)...(*xn*,*yn*)

10 \qline(*coor0*)(*coor1*)

11 \pspolygon*[*par*](*x0*,*y0*)(*x1*,*y1*)(*x2*,*y2*)...(*xn*,*yn*)

11 \psframe*[*par*](*x0*,*y0*)(*x1*,*y1*)

Arcs, circles and ellipses

11 \pscircle*[*par*](*x0*,*y0*){*radius*}

11 \qdisk(*coor*){*radius*}

12 \pswedge*[*par*](*x0*,*y0*){*radius*}{*angle1*}{*angle2*}

12 \psellipse*[*par*](*x0*,*y0*)(*x1*,*y1*)

12 \psarc*[*par*]{*arrows*}(*x*,*y*){*radius*}{*angleA*}{*angleB*}

12 arcsepA=*dim* Default: 0pt

12 arcsepB=*dim* Default: 0pt

13 arcsep=*dim* Default: 0

13 \psarcn*[*par*]{*arrows*}(*x*,*y*){*radius*}{*angleA*}{*angleB*}

Curves

13 \psbezier*[*par*]{*arrows*}(*x0*,*y0*)(*x1*,*y1*)(*x2*,*y2*)(*x3*,*y3*)

14 \parabola*[*par*]{*arrows*}(*x0*,*y0*)(*x1*,*y1*)

14 curvature=*num1 num2 num3* Default: 1 .1 0

15 **\pscurve***[*par*]{*arrows*}**(*x1, y1*)**...(*xn, yn*)

15 **\psecurve***[*par*]{*arrows*}**(*x1, y1*)**...(*xn, yn*)**]**

15 **\psccurve***[*par*]{*arrows*}**(*x1, y1*)**...(*xn, yn*)

Dots

15 **\psdots***[*par*]**(*x1,y1*)**(*x2,y2*)...(*xn,yn*)

16 **dotstyle=*style*** Default: *

Dot styles

Style	*Example*	*Style*	*Example*
*	• • • • •	square	▫ ▫ ▫ ▫ ▫
o	∘ ∘ ∘ ∘ ∘	square*	▪ ▪ ▪ ▪ ▪
+	+ + + + +	pentagon	⬠ ⬠ ⬠ ⬠ ⬠
triangle	▵ ▵ ▵ ▵ ▵	pentagon*	⬟ ⬟ ⬟ ⬟ ⬟
triangle*	▴ ▴ ▴ ▴ ▴	|	| | | | |

16 **dotscale=*num1 num2*** Default: 1

16 **dotangle=*angle*** Default: 0

Grids

17 **\psgrid**(*x0,y0*)(*x1,y1*)(*x2,y2*)

18 **gridwidth=*dim*** Default: .8pt

18 **gridcolor=*color*** Default: black

18 **griddots=*num*** Default: 0

18 **gridlabels=*dim*** Default: 10pt

18 **gridlabelcolor=*color*** Default: black

18 **subgriddiv=*int*** Default: 5

18 **subgridwidth=*dim*** Default: .4pt

18 **subgridcolor=*color*** Default: gray

18 **subgriddots=*num*** Default: 0

Plots

19 **plotstyle=*style*** Default: line

20 **\fileplot***[*par*]**{*file*}**

20 **\dataplot***[*par*]**{*commands*}**

20 **\savedata{*command*}[*data*]**

20 **\readdata{*command*}{*file*}**

21 **\listplot***[*par*]**{*list*}**

21 **\psplot***[*par*]**{**$x_{\min}$**}{**$x_{\max}$**}{*function*}**

22 **\parametricplot***[*par*]**{**$t_{\min}$**}{**$t_{\max}$**}{*function*}**

22 **plotpoints=*int*** Default: 50

Coordinate systems

24 **origin=*{coor}*** Default: 0pt,0pt

24 **swapaxes=*true*** Default: false

Line styles

24 **linestyle=*style*** Default: solid

25 **dash=*dim1 dim2*** Default: 5pt 3pt

25 **dotsep=*dim*** **Default: 3pt**

25 **border=*dim*** **Default: 0pt**

25 **bordercolor=*color*** **Default: white**

25 **doubleline=*true/false*** **Default: false**

25 **doublesep=*dim*** **Default: 1.25\pslinewidth**

26 **doublecolor=*color*** **Default: white**

26 **shadow=*true/false*** **Default: false**

26 **shadowsize=*dim*** **Default: 3pt**

26 **shadowangle=*angle*** **Default: -45**

26 **shadowcolor=*color*** **Default: darkgray**

26 **dimen=*outer/inner/middle*** **Default: outer**

Fill styles

27 **fillstyle=*style*** **Default: none**

27 **fillcolor=*color*** **Default: white**

27 **hatchwidth=*dim*** **Default: .8pt**

27 **hatchsep=*dim*** **Default: 4pt**

27 **hatchcolor=*color*** **Default: black**

27 **hatchangle=*rot*** **Default: 45**

Arrowheads and such

28 **arrows=*style*** **Default: -**

Arrows

Value	*Example*	*Name*
`-`		None
`<->`		Arrowheads.
`>-<`		Reverse arrowheads.
`<<->>`		Double arrowheads.
`>>-<<`		Double reverse arrowheads.
`|-|`		T-bars, flush to endpoints.
`|*-|*`		T-bars, centered on endpoints.
`[-]`		Square brackets.
`(-)`		Rounded brackets.
`o-o`		Circles, centered on endpoints.
`*-*`		Disks, centered on endpoints.
`oo-oo`		Circles, flush to endpoints.
`**-**`		Disks, flush to endpoints.
`c-c`		Extended, rounded ends.
`cc-cc`		Flush round ends.
`C-C`		Extended, square ends.

30 **arrowsize=*dim num*** **Default: 2pt 3**

30 **arrowlength=*num*** **Default: 1.4**

30 **arrowinset=*num*** **Default: .4**

30 **tbarsize=*dim num*** **Default: 2pt 5**

30 **bracketlength=*num*** **Default: .15**

30 **rbracketlength=*num*** **Default: .15**

30 **dotsize=*dim num*** **Default: .5pt 2.5**

30 **arrowscale=*arrowscale=num1 num2*** **Default: 1**

Custom styles

31 \newpsobject{*name*}{*object*}{*par1=value1*,...}

31 \newpsstyle{*name*}{*par1=value1*,...}

The basics

32 \pscustom*[*par*]{*commands*}

Parameters

33 linetype=*int* Default: 0

Graphics objects

35 liftpen=*0/1/2* Default: 0

Safe tricks

36 \newpath

36 \moveto(*coor*)

36 \closepath

36 \stroke[*par*]

37 \fill[*par*]

37 \gsave

37 \grestore

38 \translate(*coor*)

38 \scale{*num1* *num2*}

38 \rotate{*angle*}

38 \swapaxes

38 \msave

38 \mrestore

38 \openshadow[*par*]

38 \closedshadow[*par*]

38 \movepath(*coor*)

Pretty safe tricks

39 \lineto(*coor*)

39 \rlineto(*coor*)

39 \curveto(*x1,y1*)(*x2,y2*)(*x3,y3*)

39 \rcurveto(*x1,y1*)(*x2,y2*)(*x3,y3*)

For hackers only

39 \code{*code*}

39 \dim{*dim*}

39 \coor(*x1,y1*)(*x2,y2*)...(*xn,yn*)

40 \rcoor(*x1,y1*)(*x2,y2*)...(*xn,yn*)

40 \file{*file*}

40 \arrows{*arrows*}

40 \setcolor{*color*}

Pictures

41 \pspicture*[*baseline*](*x0,y0*)(*x1,y1*)

41 \endpspicture

Placing and rotating whatever

43 **\rput***[*refpoint*]{*rotation*}***(x,y){stuff}***

44 **\uput***{*labelsep*}***[refangle]***{*rotation*}(*x,y*)***{stuff}***

44 **\pslabelsep**

44 **labelsep=*dim*** Default: 5pt

Repetition

46 **\multirput***[*refpoint*]{*angle*}(*x0,y0*)***(x1,y1){int}{stuff}***

46 **\multips**{*angle*}(*x0,y0*)***(x1,y1){int}{graphics}***

Axes

48 **\psaxes***[*par*]{*arrows*}(*x0,y0*)(*x1,y1*)***(x2,y2)***

Axes label parameters

Horitontal	*Vertical*	*Dflt*	*Description*
Ox=num	**Oy=num**	0	Label at origin.
Dx=num	**Dy=num**	1	Label increment.
dx=dim	**oy=dim**	0pt	Dist btwn labels.

50 **labels=*all/x/y/none*** Default: all

50 **showorigin=*true/false*** Default: true

50 **ticks=*all/x/y/none*** Default: all

50 **tickstyle=*full/top/bottom*** Default: full

50 **ticksize=*dim*** Default: 3pt

51 **\psxlabel**

51 **\psylabel**

51 **axesstyle=*axes/frame/none*** Default: axes

Framed boxes

52 **framesep=*dim*** Default: 3pt

52 **boxsep=*true/false*** Default: true

52 **\psframebox***[*par*]***{stuff}***

53 **\psdblframebox***[*par*]***{stuff}***

53 **\psshadowbox***[*par*]***{stuff}***

53 **\pscirclebox***[*par*]***{stuff}***

53 **\cput***[*par*]***{angle}(x,y){stuff}***

54 **\psovalbox***[*par*]***{stuff}***

Clipping

54 **\clipbox**[*dim*]***{stuff}***

54 **\psclip*{graphics}*** ... **\endpsclip**

Rotation and scaling boxes

55 **\rotateleft*{stuff}***

55 **\rotateright*{stuff}***

56 **\rotatedown*{stuff}***

56 **\scalebox{*num1* num2}{*stuff*}**

56 **\scaleboxto(*x*,*y*){*stuff*}**

Nodes

59 **\rnode**[*refpoint*]**{*name*}{*stuff*}**

59 **\Rnode**(*x*,*y*)**{*name*}{*stuff*}**

59 **\RnodeRef**

60 **\pnode**(*x*,*y*)**{*name*}**

60 **\cnode***[*par*](*x*,*y*)**{*radius*}{*name*}**

60 **\circlenode***[*par*]**{*name*}{*stuff*}**

60 **\cnodeput***[*par*]{*angle*}(*x*,*y*)**{*name*}{*stuff*}**

60 **\ovalnode***[*par*]**{*name*}{*stuff*}**

Node connections

61	**nodesep=*dim***	Default: 0
61	**offset=*dim***	Default: 0
61	**arm=*dim***	Default: 10pt
61	**angle=*angle***	Default: 0
61	**arcangle=*angle***	Default: 8
61	**ncurv=*num***	Default: .67
62	**loopsize=*dim***	Default: 1cm

62 **\ncline***[*par*]{*arrows*}**{*nodeA*}{*nodeB*}**

62 **\ncLine***[*par*]{*arrows*}**{*nodeA*}{*nodeB*}**

62 **\nccurve***[*par*]{*arrows*}**{*nodeA*}{*nodeB*}**

63 **\ncarc***[*par*]{*arrows*}**{*nodeA*}{*nodeB*}**

63 **\ncbar***[*par*]{*arrows*}**{*nodeA*}{*nodeB*}**

63 **\ncdiag***[*par*]{*arrows*}**{*nodeA*}{*nodeB*}**

64 **\ncdiagg***[*par*]{*arrows*}**{*nodeA*}{*nodeB*}**

64 **\ncangle***[*par*]{*arrows*}**{*nodeA*}{*nodeB*}**

64 **\ncangles***[*par*]{*arrows*}**{*nodeA*}{*nodeB*}**

65 **\ncloop***[*par*]{*arrows*}**{*nodeA*}{*nodeB*}**

65 **\nccircle***[*par*]{*arrows*}**{*node*}{*radius*}**

65 **\pcline***[*par*]{*arrows*}**(*x1*,*y1*)(*x2*,*y2*)**

65 **\pccurve***[*par*]{*arrows*}**(*x1*,*y1*)(*x2*,*y2*)**

65 **\pcarc***[*par*]{*arrows*}**(*x1*,*y1*)(*x2*,*y2*)**

65 **\pcbar***[*par*]{*arrows*}**(*x1*,*y1*)(*x2*,*y2*)**

65 **\pcdiag***[*par*]{*arrows*}**(*x1*,*y1*)(*x2*,*y2*)**

66 **\pcangle***[*par*]{*arrows*}**(*x1*,*y1*)(*x2*,*y2*)**

66 **\pcloop***[*par*]{*arrows*}**(*x1*,*y1*)(*x2*,*y2*)**

Attaching labels to node connections

67 **\lput***[*refpoint*]{*rotation*}**(*pos*){*stuff*}**

68 **\aput***[*labelsep*]{*angle*}**(*pos*){*stuff*}**

68 **\bput***[*labelsep*]{*angle*}**(*pos*){*stuff*}**

68 **\mput***[*refpoint*]**{*stuff*}**

68 **\Aput***[*labelsep*]**{*stuff*}**

68 **\Bput***[*labelsep*]**{*stuff*}**

Coils and zigzags

70 **\pscoil***[*par*]{*arrows*}(*x0*,*y0*)**(*x1*,*y1*)**

70 \psCoil*[*par*]{***angle1***}{***angle2***}

70 \pszigzag*[*par*]{*arrows*}(*x0*,*y0*)(***x1***,***y1***)

70 coilwidth=***dim*** Default: 1cm

70 coilheight=***num*** Default: 1

70 coilarm=***dim*** Default: .5cm

70 coilaspect=***angle*** Default: 45

70 coilinc=***angle*** Default: 10

71 \nccoil*[*par*]{*arrows*}{***nodeA***}{***nodeB***}

71 \nczigzag*[*par*]{*arrows*}{***nodeA***}{***nodeB***}

71 \pccoil*[*par*]{*arrows*}(***x1***,***y1***)(***x2***,***y2***)

71 \pczigzag*[*par*]{*arrows*}(***x1***,***y1***)(***x2***,***y2***)

Special coordinates

72 \SpecialCoor

Special coordinates and angles

Coordinate	*Example*	*Description*
(***x***,***y***)	(3,4)	Cartesian coordinate.
(***r***;***a***)	(3;110)	Polar coordinate.
(***node***)	(A)	Center of ***node***.
([***par***]***node***)	([angle=45]A)	Relative to ***node***.
(!***ps***)	(!5 3.3 2 exp)	Raw PostScript.
(***coor1***|***coor2***)	(A|1in;30)	Combination.

Angle	*Example*	*Description*
num	45	Angle.
(***coor***)	(-1,1)	Coordinate (vector).
!***ps***	!33 sqrt	Raw PostScript.

73 \NormalCoor

Overlays

73 \overlaybox ***stuff***\endoverlaybox

73 \psoverlay{***string***}

74 \putoverlaybox{***string***}

74 gradbegin=***color*** Default: gradbegin

74 gradend=***color*** Default: gradend

75 gradlines=***int*** Default: 500

75 gradmidpoint=***num*** Default: .9

75 gradangle=***angle*** Default: 0

Typesetting text along a path

76 \pstextpath[*pos*](*x*,*y*){***graphics object***}{***text***}

Stroking and filling character paths

77 **\pscharpath***[*par*]{***text***}

78 **\pscharclip***[*par*]{***text***} **...** **\endpscharclip**

Exporting EPS files

79 **\TeXtoEPS**

79 **\endTeXtoEPS**

80 **\PSTtoEPS**[*par*]{***file***}{***graphics objects***}

80	**bbllx=*dim***	Default: -1pt
80	**bblly=*dim***	Default: -1pt
80	**bburx=*dim***	Default: 1pt
80	**bbury=*dim***	Default: 1pt
81	**headerfile=*file***	Default: s
81	**headers=*none/all/user***	Default: none

Boxes

83 **\psmathboxtrue**

83 **\psmathboxfalse**

83 **\everypsbox**{***commands***}

83 **\pslongbox**{***name***}{***cmd***}

84 **\psverbboxtrue**

84 **\psverbboxfalse**

Tips and More Tricks

85 **\PSTricksOff**

Including PostScript code

87 **\pslbrace**

87 **\psrbrace**