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

The basics

Parameters

Graphics objects

Safe tricks

Pretty safe tricks

For hackers only

Pictures

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

Exporting EPS files

Boxes

Tips and More Tricks

Including PostScript code