

Sections d'un cylindre en \codejps

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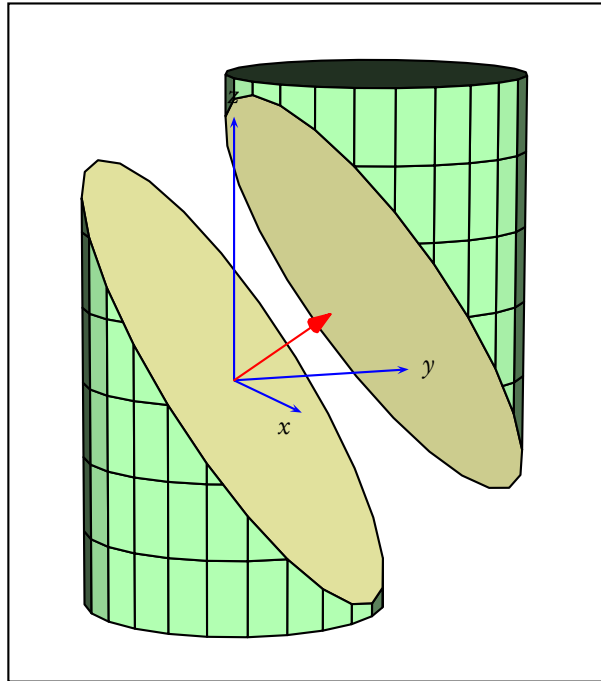
La macro `lightsource` permet de placer la source de lumière au même endroit que le point de vue lorsque les coordonnées sphériques sont activées : `SphericalCoor=true`.

```
\def\lightsource{
\pstVerb{\pst@solides@viewpoint
/PhI exch def /ThetA exch def /Dist exch def
/Lx Dist ThetA cos mul PhI cos mul def
/Ly Dist ThetA sin mul PhI cos mul def
/Lz Dist PhI sin mul def}%
\psset{lightsrc=Lx Ly Lz}
}
```

Elle doit se placer après les coordonnées du point de vue.

```
\psset{SphericalCoor=true,viewpoint=50 -20 10,Decran=50}
\lightsource
```

1 Coupe d'un cylindre plein

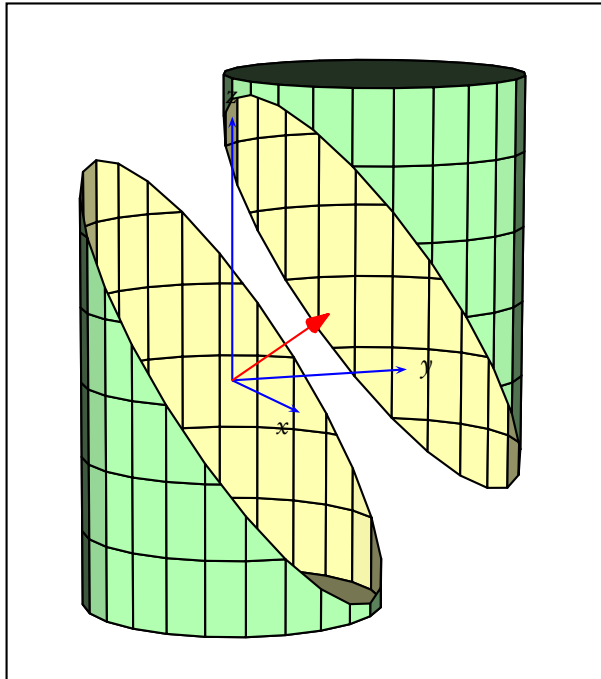


```

1 \begin{pspicture}(-3,-4)(5,5)
2 \psframe(-3,-4)(5,5)
3 \psset{SphericalCoor=true,viewpoint=50 -20 10,Decran=50}
4 \lightsource
5 \codejps{
6 solidlight0n
7 -3 2 3 [6 24] newcylindre
8 [1 1 1 0] solidplansepare
9 exch
10 {0 0 60 rotate0point3d} solidtransform
11 {0 2 1 translatepoint3d} solidtransform
12 dup (0.7 1 0.7 setrgbcolor) outputcolors
13 dup 0 (1 1 0.7 setrgbcolor) solidputfcolor
14 % dup
15 drawsolid**
16 % solidnumfaces
17 dup (0.7 1 0.7 setrgbcolor) outputcolors
18 dup 0 (1 1 0.7 setrgbcolor) solidputfcolor
19 % dup
20 drawsolid**
21 % solidnumfaces
22 }
23 \axesIIID[linecolor=blue](0,0,0)(2.5,2.5,3.5)
24 \Normale[linecolor=red,fillcolor=red](0,45,35.2644)
25 \end{pspicture}

```

2 Coupe d'un cylindre creux

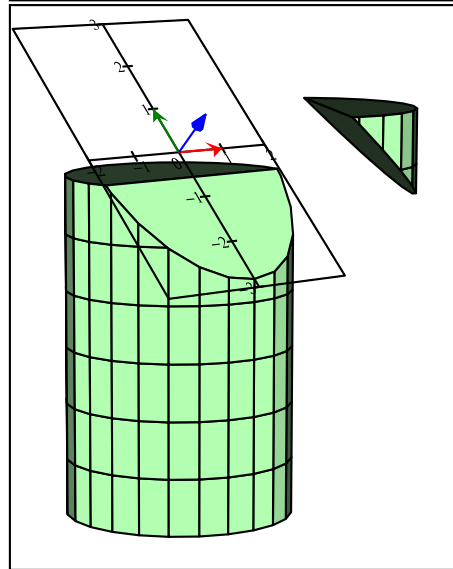
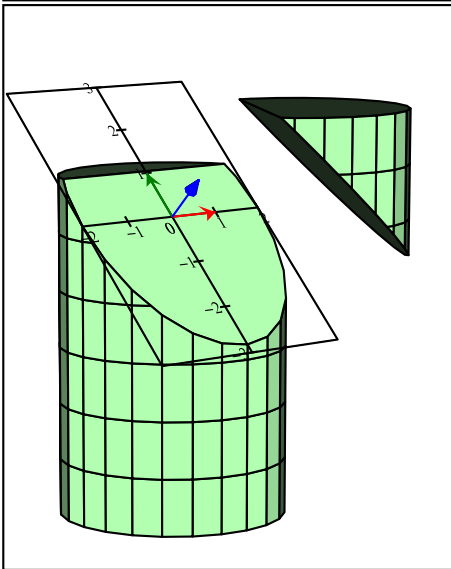
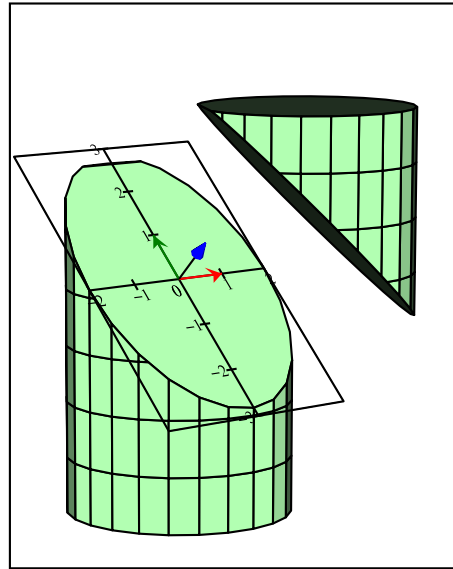
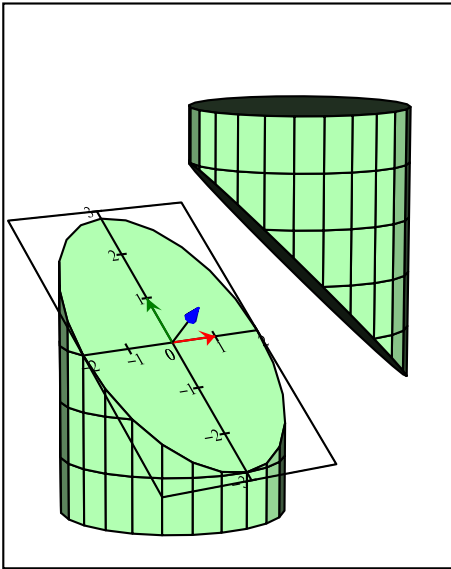


```

1 \begin{pspicture}(-3,-4)(5,5)
2 \psset{SphericalCoor=true,viewpoint=50 -20 10,Decran=50}
3 \lightsource
4 \psframe(-3,-4)(5,5)
5 \codejps{
6 solidlightOn
7 -3 2 3 [6 24] newcylindre
8 [1 1 1 0] solidplansepare
9 exch
10 dup [0] solidrmfaces
11 dup videsolid
12 {0 0 60 rotate0point3d} solidtransform
13 {0 2 1 translatepoint3d} solidtransform
14 dup (1 1 0.7 setrgbcolor) (0.7 1 0.7 setrgbcolor) inoutputcolors
15 drawsolid**
16 dup [0] solidrmfaces
17 dup videsolid
18 dup (1 1 0.7 setrgbcolor) (0.7 1 0.7 setrgbcolor) inoutputcolors
19 drawsolid**
20 }
21 \axesIIID[linecolor=blue](0,0,0)(2.5,2.5,3.5)
22 \Normale[linecolor=red](0,45,35.2644)
23 \end{pspicture}

```

3 Coupe en faisant varier la distance du plan

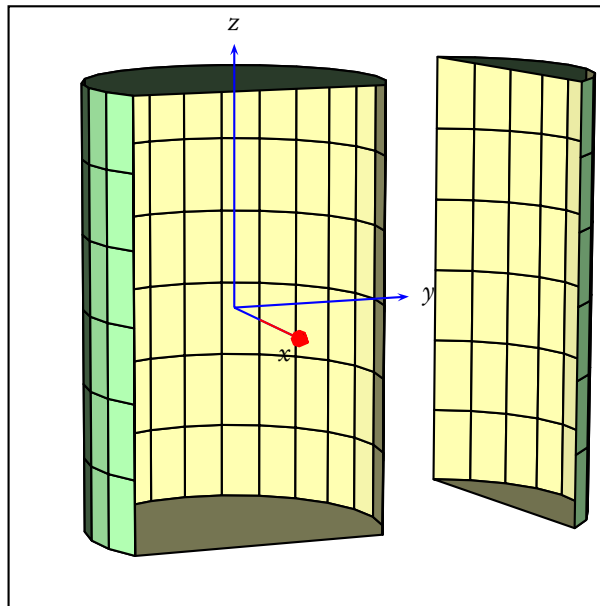


```

1 \psset{unit=0.75}
2 \multido{\rD=0.001+0.8}{4}{%
3 \begin{pspicture}(-3,-4)(5,6)
4 \psframe(-3,-4)(5,6)
5 \psset{SphericalCoor=true,viewpoint=50 -40 10,Decran=50}
6 \lightsource
7 \codejps{solidlightOn
8 -3 2 3 [6 24] newcylindre
9 [0.707 0 0.707 -\rD\space] solidplansepare
10 exch
11 {0 0 60 rotateOpoint3d} solidtransform
12 {0 3 1 translatepoint3d} solidtransform
13 dup (0.7 1 0.7 setrgbcolor) outputcolors
14 drawsolid**
15 dup (0.7 1 0.7 setrgbcolor) outputcolors
16 drawsolid**}
17 \psSolid[object=plan,action=draw,
18 definition=equation,
19 args={[0.707 0 0.707 -\rD\space] 90},
20 base=-2 2 -3 3,planmarks,showBase]
21 \end{pspicture}}\ifnum\multidocount=2\noindent\newline\else\hfill\fi}

```

4 Coupe par un plan parallèle à l'axe



```

1 \begin{pspicture}(-3,-4)(5,4)
2 \psset{SphericalCoor=true,viewpoint=50 -20 10,Decran=50}
3 \lightsource
4 \psframe(-3,-4)(5,4)
5 \codejps{
6   solidlightOn
7   -3 2 3 [6 24] newcylindre
8   [1 0 0 -1.001] solidplansepare
9   exch
10  dup [0] solidrmfaces
11  dup videsolid
12  {0 0 100 rotate0point3d} solidtransform
13  {0 3 0 translatepoint3d} solidtransform
14  dup (1 1 0.7 setrgbcolor) (0.7 1 0.7 setrgbcolor) inoutputcolors
15  %dup
16  drawsolid**
17  %solidnumfaces
18  dup [0] solidrmfaces
19  dup videsolid
20  dup (1 1 0.7 setrgbcolor) (0.7 1 0.7 setrgbcolor) inoutputcolors
21  drawsolid**
22 }
23 \axesIIID[linecolor=blue](0,0,0)(2.5,2.5,3.5)
24 \Normale[linecolor=red,fillcolor=red](1,0,0)
25 \end{pspicture}

```