tests procédure des solides de révolution JPV

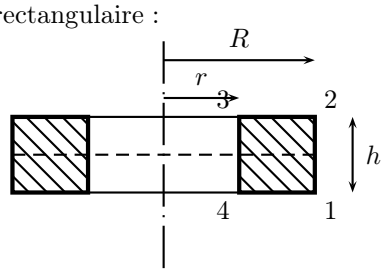
JPV

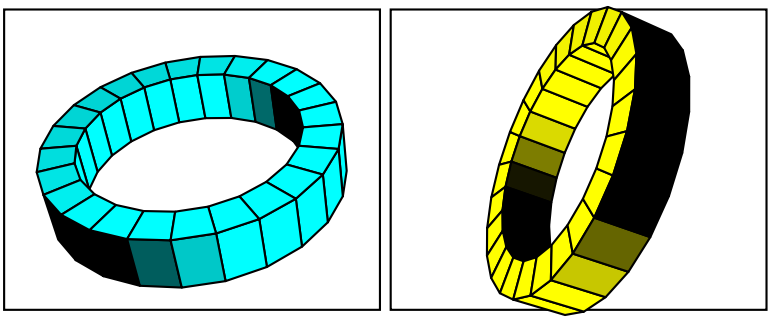
30 septembre 2 006

1 objet : cylindricalring, 5 exemples

1. Commande pré-définie, l'anneau à section rectangulaire :

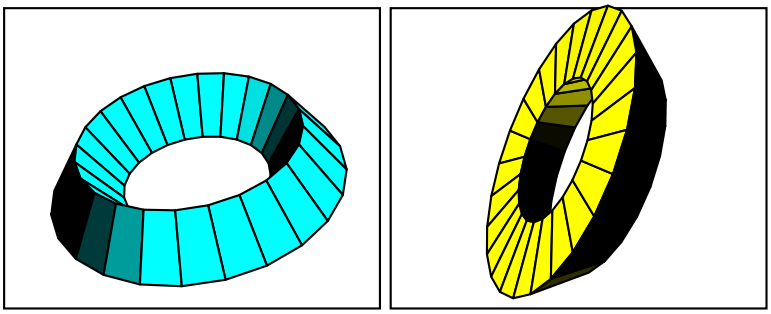
```
\newcommand\Section{%
  0 R h 2 div neg % sommet 1
  0 R h 2 div     % sommet 2
  0 r h 2 div     % sommet 3
  0 r h 2 div neg % sommet 4
            }
```





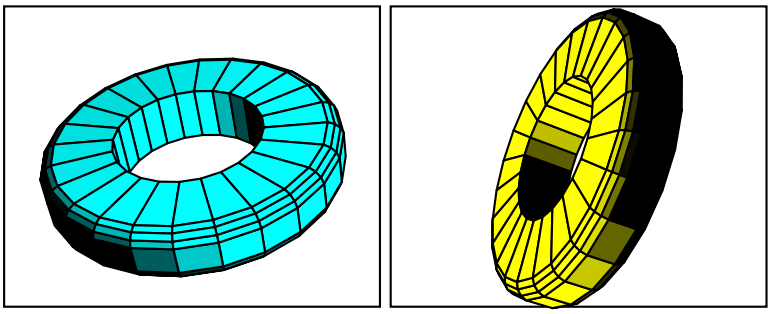
2. L'anneau à section triangulaire

```
\renewcommand\Section{
         0 R h 2 div neg % sommet 1
         0 R r add 2 div h 2 div % sommet 2
         0 r h 2 div neg % sommet 3
}
```



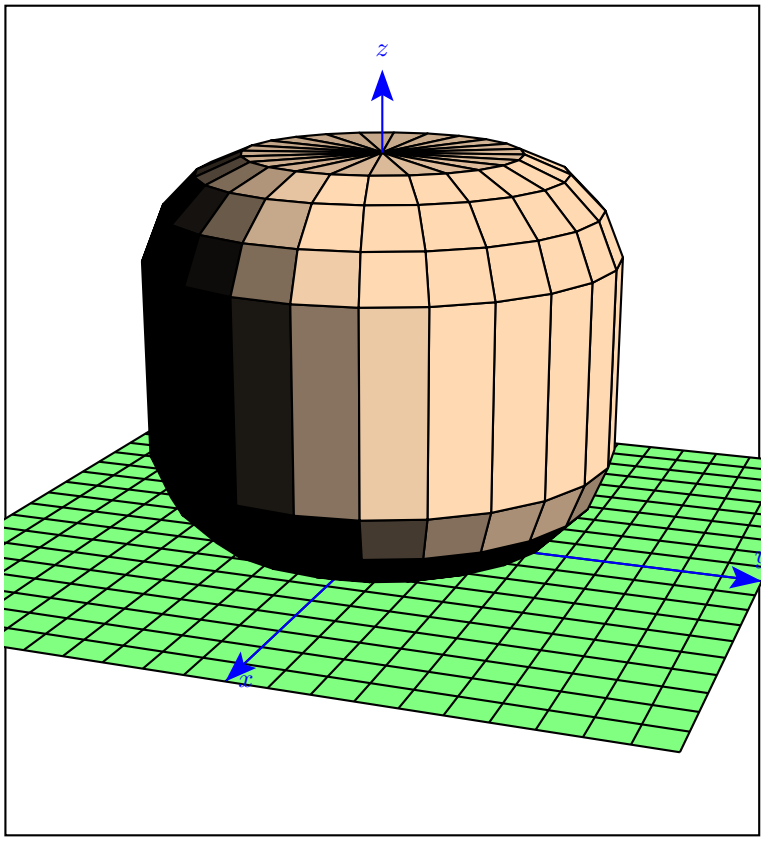
3. L'anneau à section "pneu" : anneau cylindrique à arêtes chanfreinées.

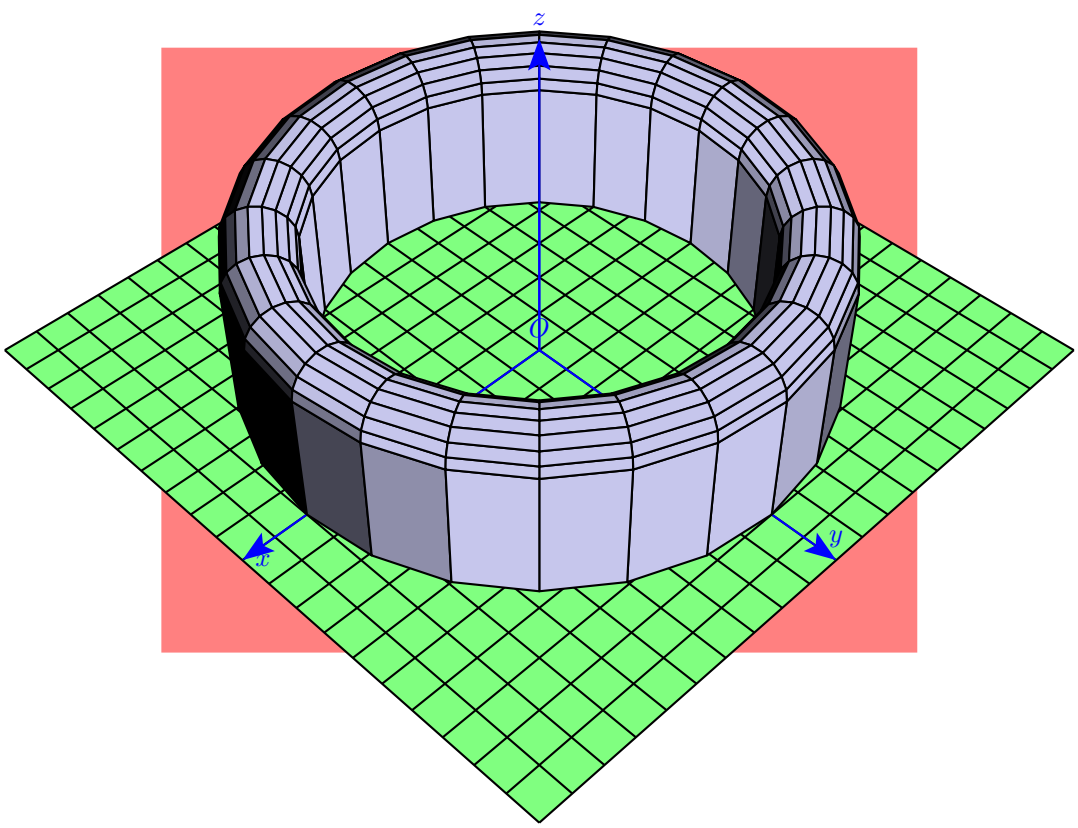
```
\renewcommand\Section{
   /m {90 4 div} bind def
   /Scos {m cos 2 m mul cos add 3 m mul cos add} bind def
   /Z0 {h 4 div} bind def
   /c {Z0 Scos div} bind def
   /Z1 {Z0 c m cos mul add} bind def
   /Z2 {Z1 c m 2 mul cos mul add} bind def
%  /Z3 {Z2 c m 3 mul cos mul add} bind def Z3= h/2
   /R1 {R c m sin mul sub} bind def
   /R2 {R1 c m 2 mul sin mul sub} bind def
   /R3 {R2 c m 3 mul sin mul sub} bind def
   0 R h 4 div neg % 1
   0 R h 4 div % 2
   0 R1 Z1 % 3
   0 R2 Z2 % 4
   0 R3 h 2 div % 5
   0 r h 2 div  % 6
   0 r h 2 div neg  % 7
   0 R3 h 2 div neg % 8
   0 R2 Z2 neg % 9
   0 R1 Z1 neg % 10
   }
```



4. pouf

```
\psSolid[object=cylindricalring,color=red!50!yellow!30,h=10,r1=6,r0=0.1](0,0,0)
```



5. les arènes

```
\renewcommand\Section{
   360 -20 180{
    /Angle ED
    0 % x=0
    R r sub 2 div Angle cos mul R r add 2 div add % y=(R-r)cos(A)+(R+r)/2
    R r sub 2 div Angle sin mul neg h add % z=-(R-r)sin(A)+h
    } for
   0 r 0
   0 R 0
   }
```