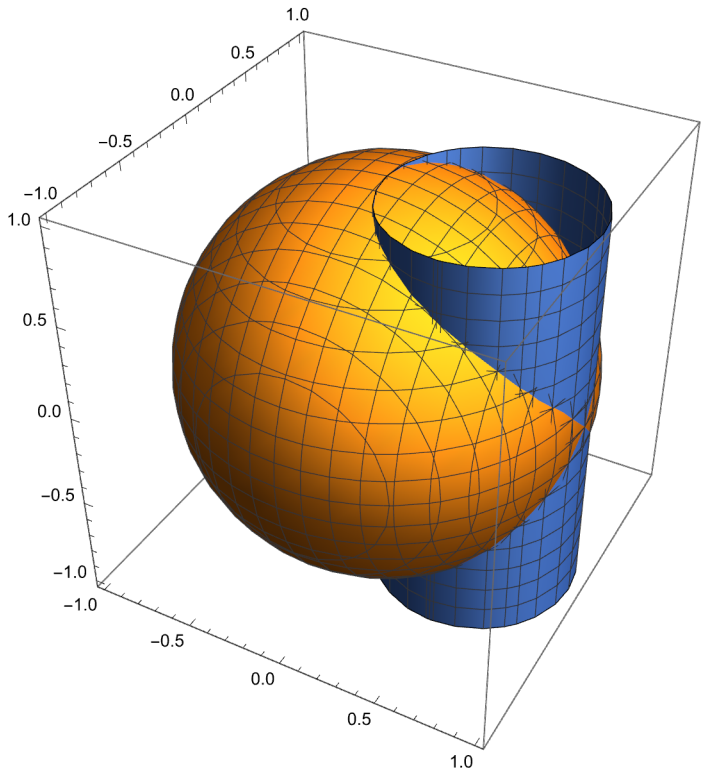
相交曲线

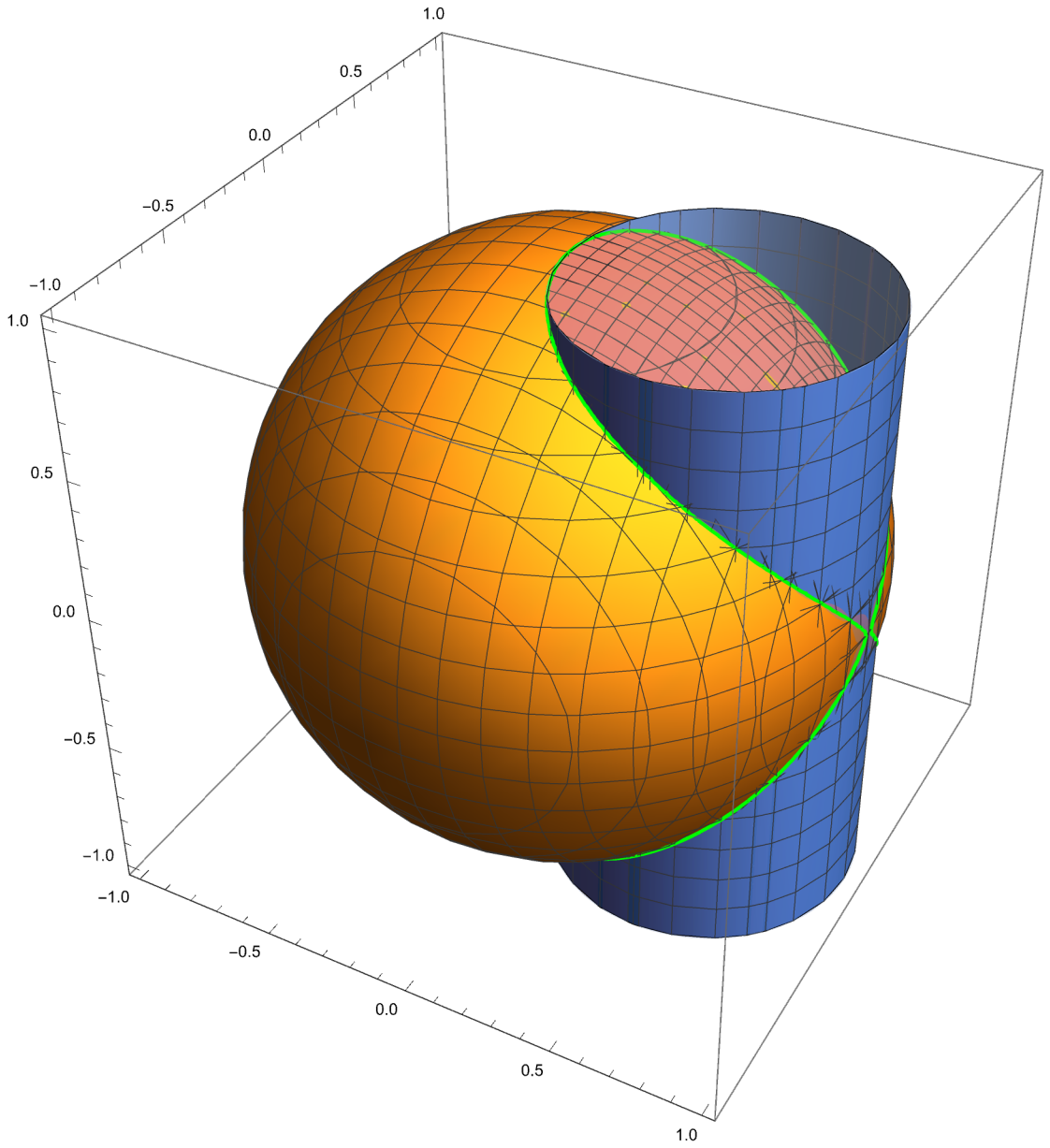
In[ ]:=
```
ContourPlot3D[{x^2 + y^2 + z^2 == 1, x^2 + y^2 == x}, {x, -1, 1}, {y, -1, 1}, {z, -1, 1}]
```
三维等高线

Out[ ]=



In[ ]:=
```
Show[
显示
 ContourPlot3D[{x^2 + y^2 + z^2 == 1, x^2 + y^2 == x}, {x, -1, 1}, {y, -1, 1}, {z, -1, 1}],
三维等高线
 ContourPlot3D[x^2 + y^2 + z^2 == 1, {x, -1, 1}, {y, -1, 1}, {z, -1, 1},
三维等高线
  RegionFunction → Function[{x, y, z}, x^2 + y^2 ≤ x],
区域函数  纯函数
  ContourStyle → {Pink}, BoundaryStyle → {Thick, Green}, PlotPoints → 60],
等高线样式  粉色  边界样式  粗  绿色  绘图点
 ImageSize → Large
图像尺寸  大
]
```

Out[ ]=



In[ ]:=
```
sol = Solve[{x^2 + y^2 + z^2 == 1, x^2 + y^2 == x}, {x, y}, Reals]
```
解方程　　实数域

Out[ ]=

$$\left\{\left\{x \to 1 - z^2 \text{ if } -1 < z < 1,\ y \to -\sqrt{1 - z^2 - \left(1 - z^2\right)^2} \text{ if } -1 < z < 1\right\},\right.$$
$$\left.\left\{x \to 1 - z^2 \text{ if } -1 < z < 1,\ y \to \sqrt{1 - z^2 - \left(1 - z^2\right)^2} \text{ if } -1 < z < 1\right\}\right\}$$

In[ ]:=
```
{x, y, z} /. # & /@ sol
```

Out[ ]=

$$\left\{\left\{1 - z^2 \text{ if } -1 < z < 1,\ -\sqrt{1 - z^2 - \left(1 - z^2\right)^2} \text{ if } -1 < z < 1,\ z\right\},\right.$$
$$\left.\left\{1 - z^2 \text{ if } -1 < z < 1,\ \sqrt{1 - z^2 - \left(1 - z^2\right)^2} \text{ if } -1 < z < 1,\ z\right\}\right\}$$

In[ ]:=
```
ParametricPlot3D[({x, y, z} /. # & /@ sol), {z, -1, 1}]
```
绘制三维参数图

Out[ ]=