Quick mayavi2 demo

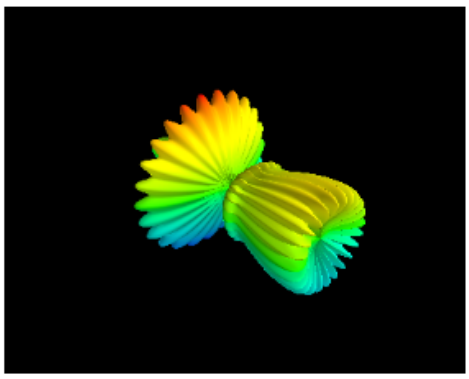
PKH

- Need to have mayavi2 installed

In [1]:
```
interactive=False # set to true to begin

def doshot():
    arr = mlab.screenshot()
    imshow(arr)
    axis('off')
    show()
```

Make a mesh

In [2]:
```
# Create the data.
from numpy import pi, sin, cos, mgrid
dphi, dtheta = pi/250.0, pi/250.0
[phi,theta] = mgrid[0:pi+dphi*1.5:dphi,0:2*pi+dtheta*1.5:dtheta]
m0 = 4; m1 = 3; m2 = 2; m3 = 3; m4 = 6; m5 = 2; m6 = 6; m7 = 4;
r = sin(m0*phi)**m1 + cos(m2*phi)**m3 + sin(m4*theta)**m5 + cos(m6*theta)**m7
x = r*sin(phi)*cos(theta)
y = r*cos(phi)
z = r*sin(phi)*sin(theta)

# View it.
from mayavi import mlab
s = mlab.mesh(x, y, z)

if interactive:
    mlab.show()
else:
    doshot()
```

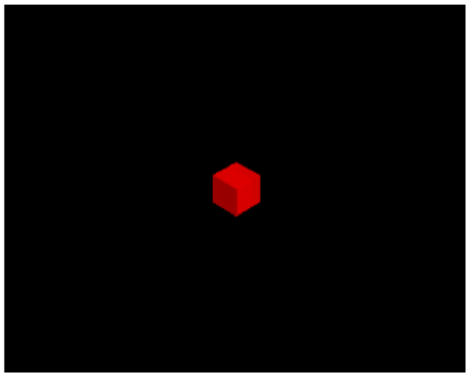


Generate more data

In [3]:
```
from mayavi import mlab
if 1:
    di = np.zeros([128,128,128])
    di[60:70,60:70,60:70] = 1.
    di[62:68,62:68,62:68] = 0.
```

Contour 3d

In [4]:
```
obj = mlab.contour3d(di, contours=2, transparent=True)
if interactive:
    mlab.show()
else:
    doshot()
```



Volume rendering

In [5]:
```
import scipy.fftpack as fftp
dis = fftp.fftshift(di)
fdis = np.real(fftp.fftn(dis,dis.shape))

obj = mlab.pipeline.volume(mlab.pipeline.scalar_field(fdis))#, vmin=0, vmax=1.)
if interactive:
    mlab.show()
else:
    doshot()
```