From the tutorial: https://xrayutilities.sourceforge.io/simulations.html#powder-diffraction-simulations (https://xrayutilities.sourceforge.io/simulations.html#powder-diffraction-simulations)

In [5]:
```
import numpy
import xrayutilities as xu

tt = numpy.arange(5, 120, 0.01)
Fe_powder = xu.simpack.Powder(xu.materials.Fe, 1,
                              crystallite_size_gauss=100e-9)
Co_powder = xu.simpack.Powder(xu.materials.Co, 5,  # 5 times more Co
                              crystallite_size_gauss=200e-9)
pm = xu.simpack.PowderModel(Fe_powder, Co_powder, I0=100)
inte = pm.simulate(tt)
```

Now try to change the energy of the incident x-rays

In [7]:
```
import matplotlib.pyplot as plt
```

In [13]:
```
pm = xu.simpack.PowderModel(Fe_powder, Co_powder, I0=100, en=10000)
inte10000 = pm.simulate(tt)
```

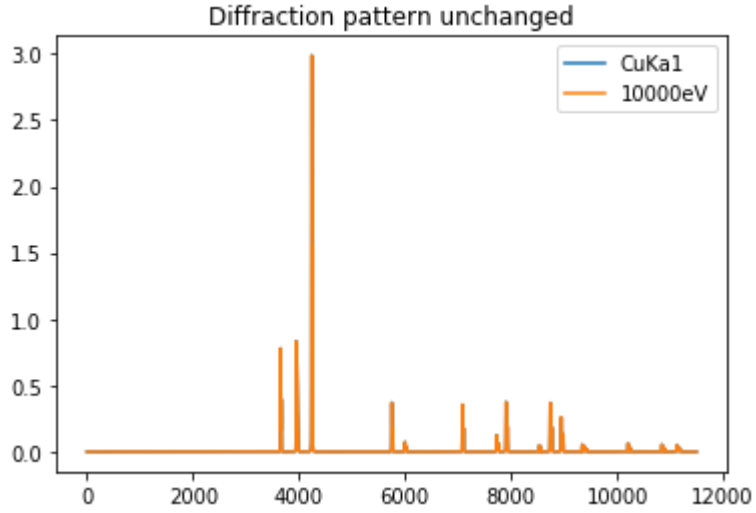
We can see that the energy that get's initiatied by the powderdiffraction class is unchanged from the global Cu Kalpha1 default.

In [12]:
```
pm.pdiff[0].energy
```

Out[12]:
```
8047.8230999999987
```

So that the resulting pattern is unchanged.

In [15]:
```
plt.plot(inte)
plt.plot(inte10000)
plt.legend(['CuKa1','10000eV'])
plt.title('Diffraction pattern unchanged')
plt.show()
```



In [ ]: