

Untitled2

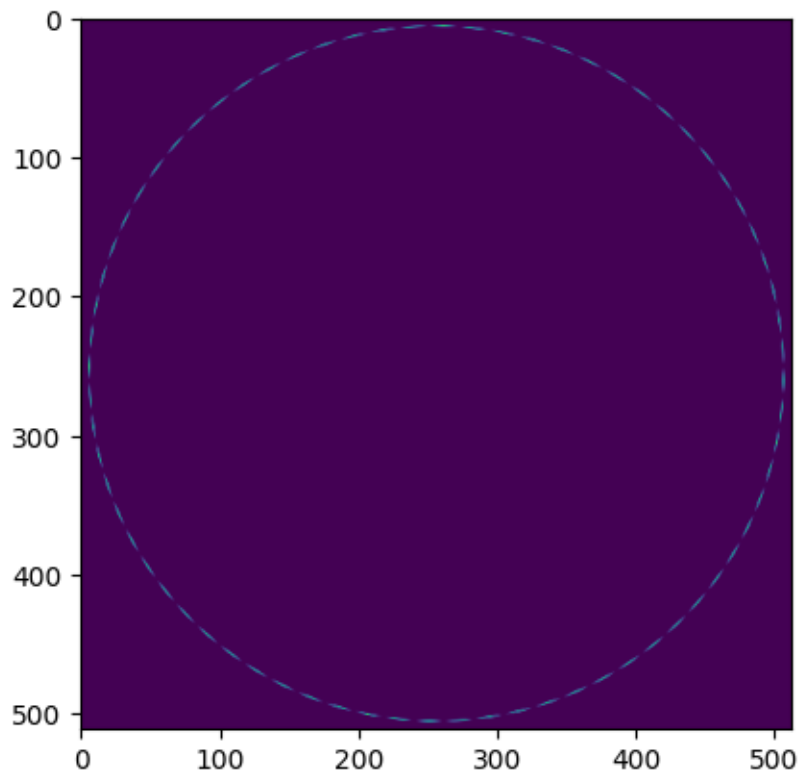
February 14, 2025

```
[1]: %matplotlib
import numpy, scipy, pyFAI
from matplotlib.pyplot import subplots
shape = (512,512)
y,x = numpy.ogrid[-256:256,-256:256]
r = (y*y+x*x)**0.5
a = numpy.atan2(y,x)
img = numpy.exp(-(r-250)**2/0.20)*(1+numpy.sin(72*a))
```

Using matplotlib backend: module://matplotlib_inline.backend_inline

```
[2]: fig,ax = subplots()
ax.imshow(img)
```

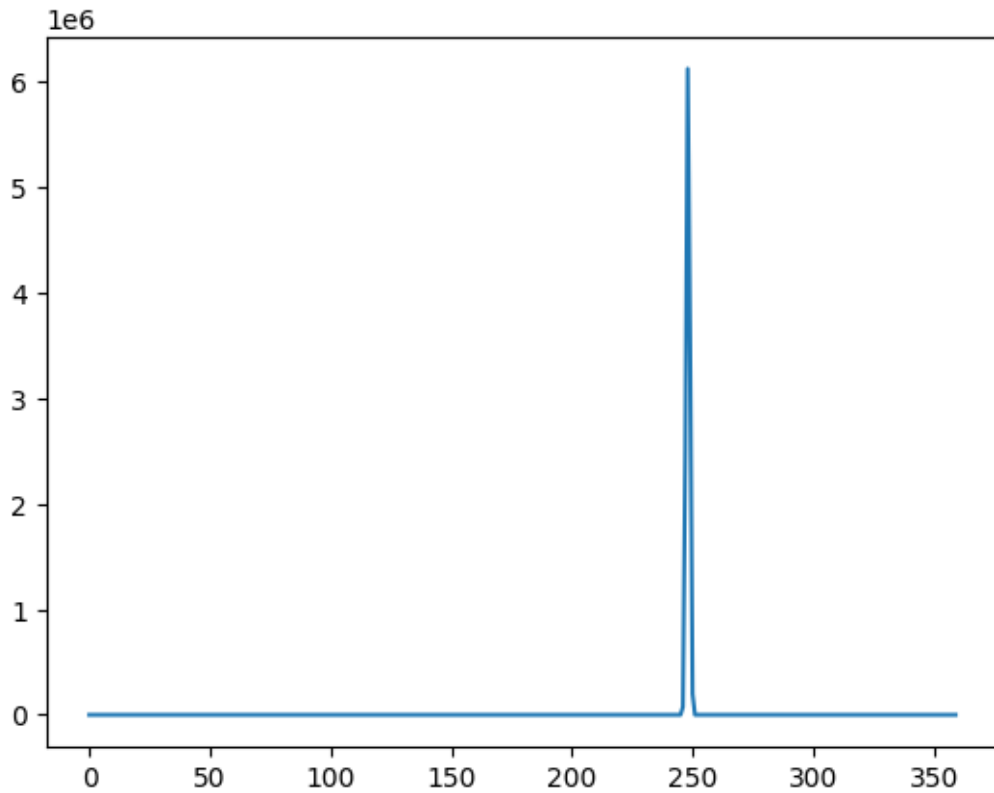
```
[2]: <matplotlib.image.AxesImage at 0x7f969d2bc210>
```



```
[3]: ai = pyFAI.load({"detector": "Detector", "detector_config": {"max_shape": (512, 512), "pixel1": 1, "pixel2": 1}, "poni1": 256, "poni2": 256})
```

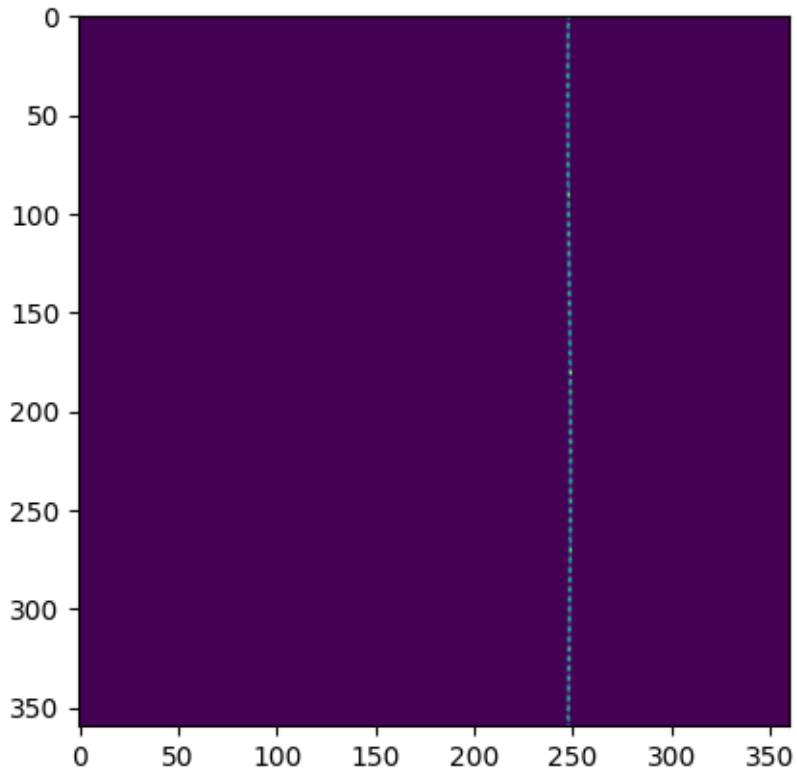
```
[4]: fig, ax = subplots()  
ax.plot(ai.integrate1d(img, 360, unit="r_m").intensity)
```

```
[4]: [<matplotlib.lines.Line2D at 0x7f969ce88190>]
```



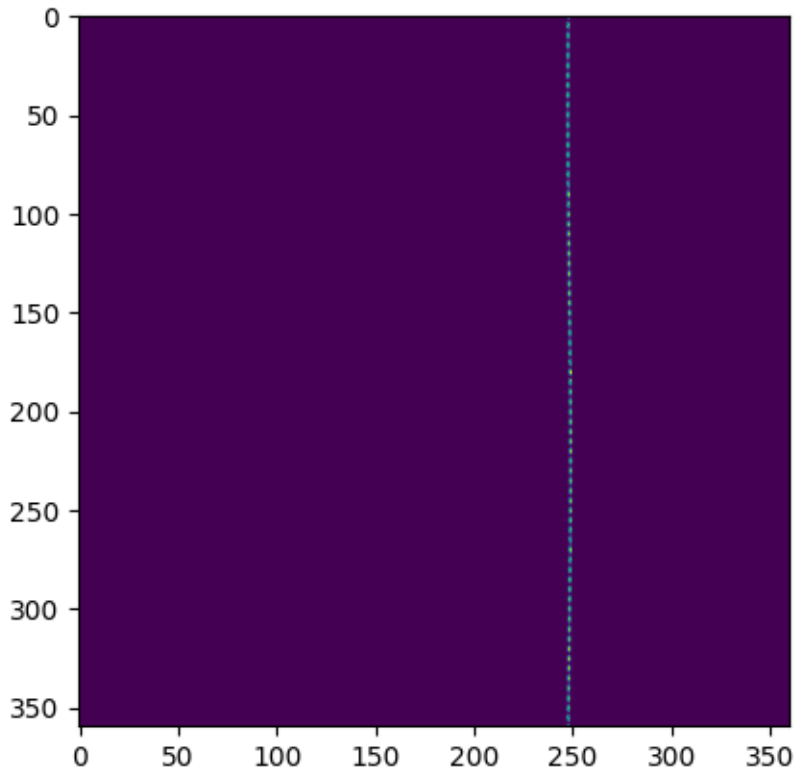
```
[5]: fig, ax = subplots()  
ax.imshow(ai.integrate2d(img, 360, unit="r_m")[0])
```

```
[5]: <matplotlib.image.AxesImage at 0x7f96801940d0>
```



```
[6]: fig,ax = subplots()
      res = ai.integrate2d(img, 360, unit="r_m", method=("full", "histogram", ↵
      ↵"cython"))
      ax.imshow(res[0])
```

```
[6]: <matplotlib.image.AxesImage at 0x7f966c0b29d0>
```



```
[7]: fig,ax = subplots()
      res = ai.integrate2d(img, 360, unit="r_m", method=("no", "histogram", "cython"))
      ax.imshow(res[0])
```

```
[7]: <matplotlib.image.AxesImage at 0x7f966c0c4210>
```

