

divergence check

April 19, 2018

```
In [1]: import numpy as np
import refnx.util.general as general
from refnx.reduce import PlatypusNexus as PN
```

```
/Users/anz/miniconda3/envs/dev3/lib/python3.6/site-packages/h5py/___init___py:36: FutureWarning
from ._conv import register_converters as _register_converters
```

```
In [2]: def ebw(cat):
    idx = 0
    scanpoint = 0
    L23 = cat.slit3_distance[idx] - cat.slit2_distance[0]
    L3det = (cat.dy[idx] +
             cat.sample_distance[0] - cat.slit3_distance[idx])
    umb, penumb = general.height_of_beam_after_dx(cat.ss2vg[scanpoint],
                                                  cat.ss3vg[scanpoint],
                                                  L23,
                                                  L3det)

    return umb / 1.177, penumb / 1.177
```

```
In [3]: d0 = PN('PLP0038524.nx.hdf')
d1 = PN('PLP0038525.nx.hdf')
d2 = PN('PLP0038526.nx.hdf')
```

```
In [4]: pw = (np.sqrt((0.289 * ebw(d0.cat)[1])**2. + 1.87**2)*4,
              np.sqrt((0.289 * ebw(d1.cat)[1])**2. + 1.87**2)*4,
              np.sqrt((0.289 * ebw(d2.cat)[1])**2. + 1.87**2)*4)
```

```
In [5]: d0.process()
d1.process()
d2.process();
```

```
In [6]: bfw = (d0.processed_spectrum['hipx'] - d0.processed_spectrum['lopx'] + 1,
              d1.processed_spectrum['hipx'] - d1.processed_spectrum['lopx'] + 1,
              d2.processed_spectrum['hipx'] - d2.processed_spectrum['lopx'] + 1)
```

```
In [7]: print(pw, np.array(bfw).squeeze())
```

(7.667114167373845, 11.314871572582936, 17.267442295858434) [9 13 17]

In [8]: `np.allclose(pw, np.array(bfw).squeeze(), rtol=0.2)`

Out [8]: True