

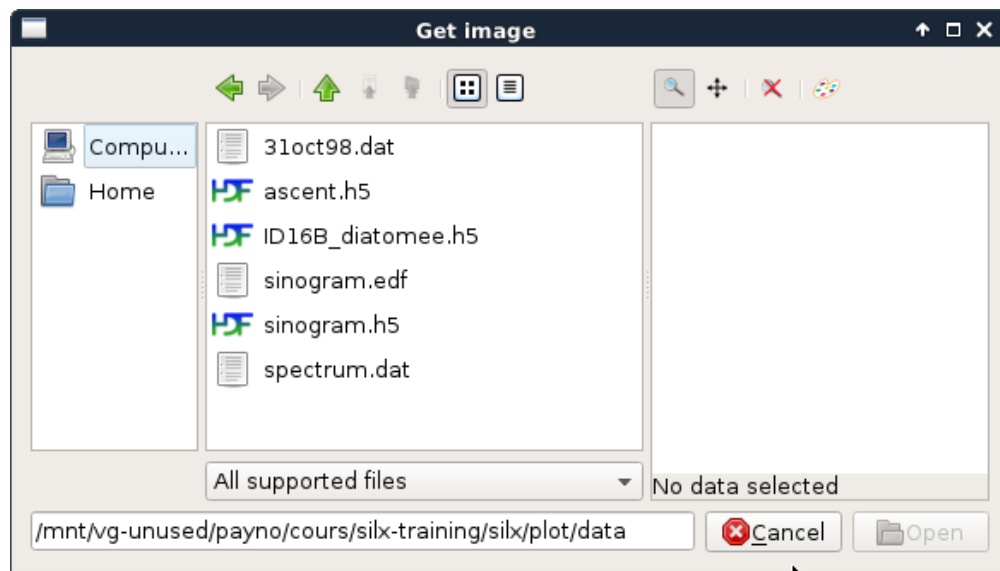
imgCorrectionEx

March 19, 2018

```
In [ ]: %gui qt
```

Same exercise, (data, normalization function) as io but with interaction

1 Create two functions



ImageDialog

- getFlatfield: to select the flatfield
- getDark: to select the dark

To do this use the ImageFileDialog class

- see doc: <http://www.silx.org/doc/silx/latest/modules/gui/dialog/imagefiledialog.html>
- related example: `examples/fileDialog.py`

```
In [ ]: from silx.gui.dialog.ImageFileDialog import ImageFileDialog
```

2 Create a function to correct an image from flatfield and dark

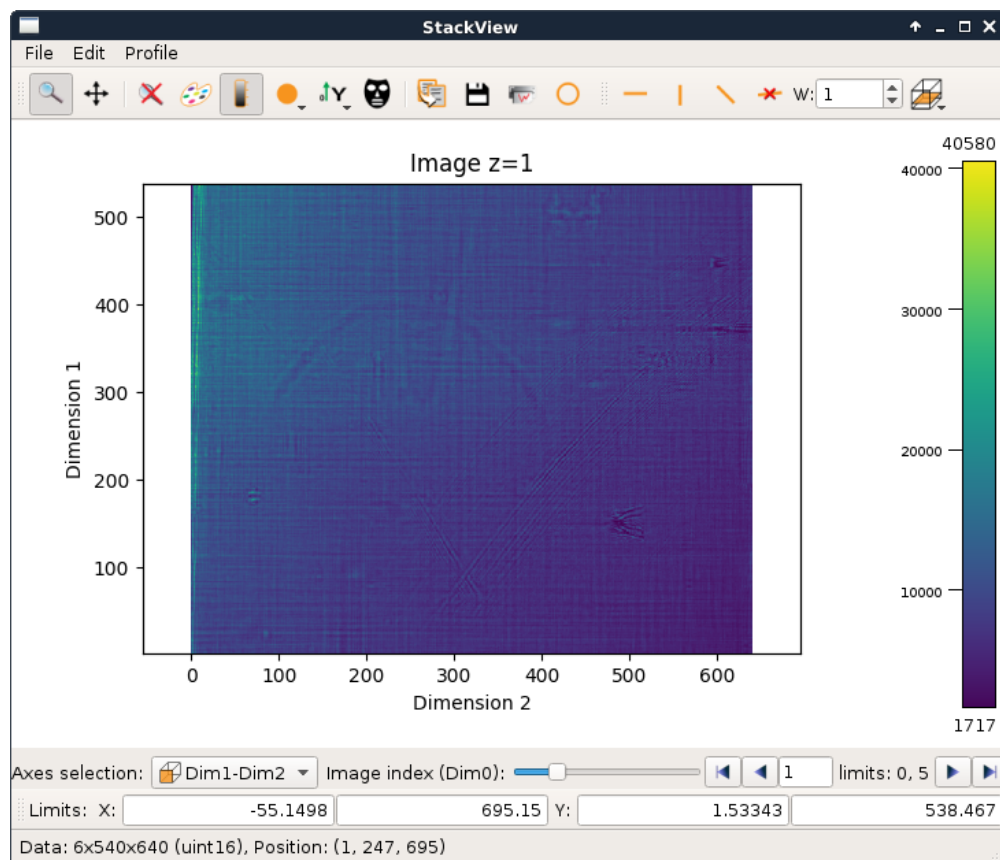
take as input an image, dark and flatfield. Return the normalized image

```
In [ ]: def applyCorrection(image, flatfield, dark):  
        return (image - dark) / (flatfield - dark)
```

3 Select an image and display it raw and normalized

```
In [ ]: from silx.gui.plot import Plot2D  
        def showRawAndCorrected(raw, corrected):  
            plot = Plot2D()  
            plot.addImage(data=raw, replace=False, legend='raw')  
            plot.addImage(data=corrected, replace=False,  
                          legend='corrected', origin=(raw.shape[0], 0))  
            plot.show()
```

4 Add an action to apply the correction on a stack of image



ImageDialog

Here is the sample code to plot the stack of image

```
In [ ]: from silx.gui.plot.StackView import StackViewMainWindow
import h5py
import numpy

dataFile = h5py.File('data/ID16B_diatomee.h5')

mystack = dataFile['scan1']['instrument']['data'][...]

sv = StackViewMainWindow()
sv.setStack(mystack)
sv.show()
```

Here is a function to apply the corection on the stack

```
In [ ]: def applyCorrection(images, flatfield, dark):
    correctedImgs = []
    for image in images:
        correctedImgs.append(applyCorrection(image,
                                              flatfield=flatfield,
                                              dark=dark))

    return correctedImgs
```

To define an action

- heritate from PlotAction
- redefine the triggered function
- See <http://www.silx.org/doc/silx/dev/modules/gui/plot/actions/examples.html> tutorial
- you can also use the PlotAction tutorial.ipynb

```
In [ ]:
```