Plot1DExercise

November 11, 2016

1 One curve
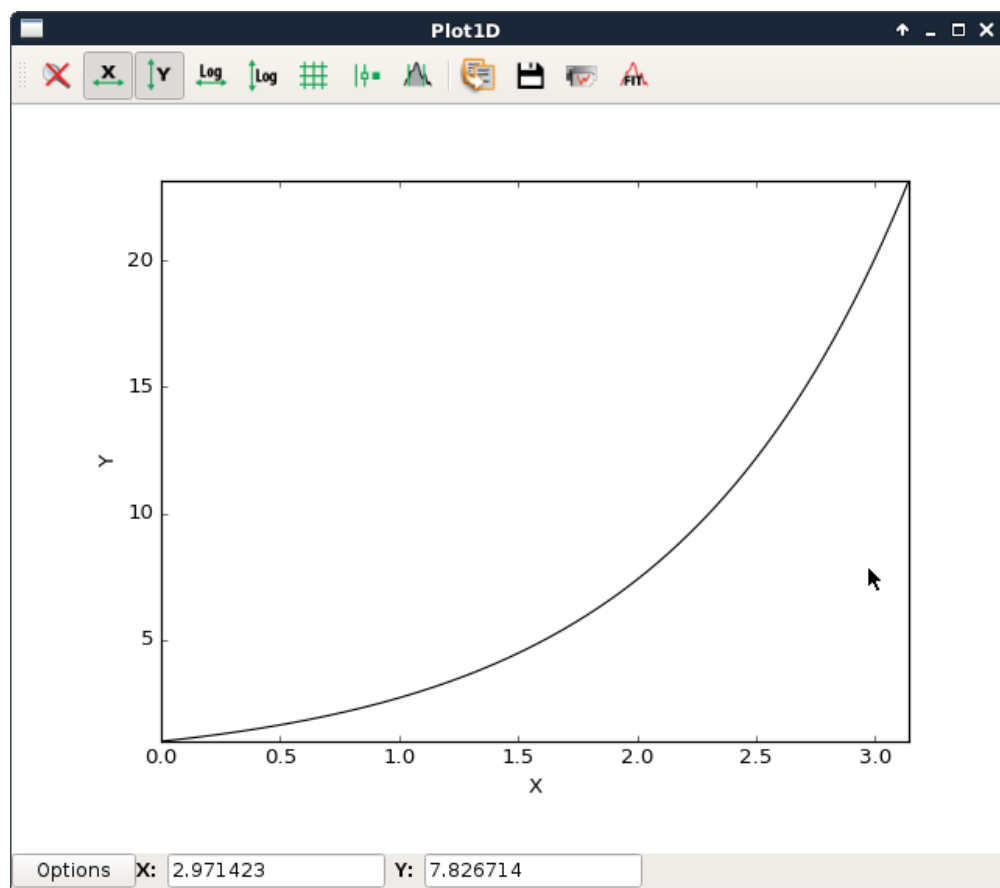
1.1 plot a simple curve and play with it

- $x = [0, pi]$

- $y = e^x$

- see documentation: http://www.silx.org/doc/silx/dev/modules/gui/plot/plotwindow.html#silx.gui.plo

- see tutorial: http://www.silx.org/doc/silx/dev/modules/gui/plot/getting_started.html

play with the interface: - log scale - grid - display points - . . .

```
In [ ]: import numpy
        x=numpy.linspace(0, numpy.pi, 1000)
        y=numpy.exp(x)

In [ ]: ...
```
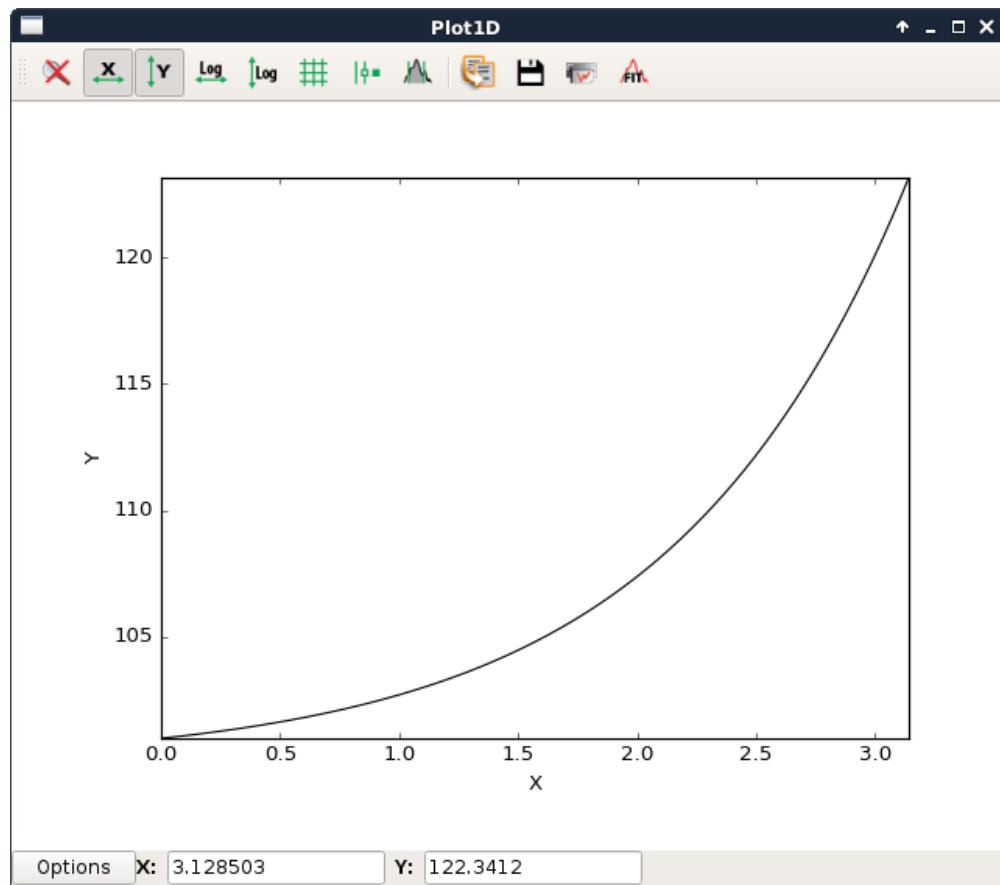
larger-iso-surface-using-silx-plot3d

1.2 Shift the curve

get back the curve and add an offset in y axis

- $y = y + 100.0$
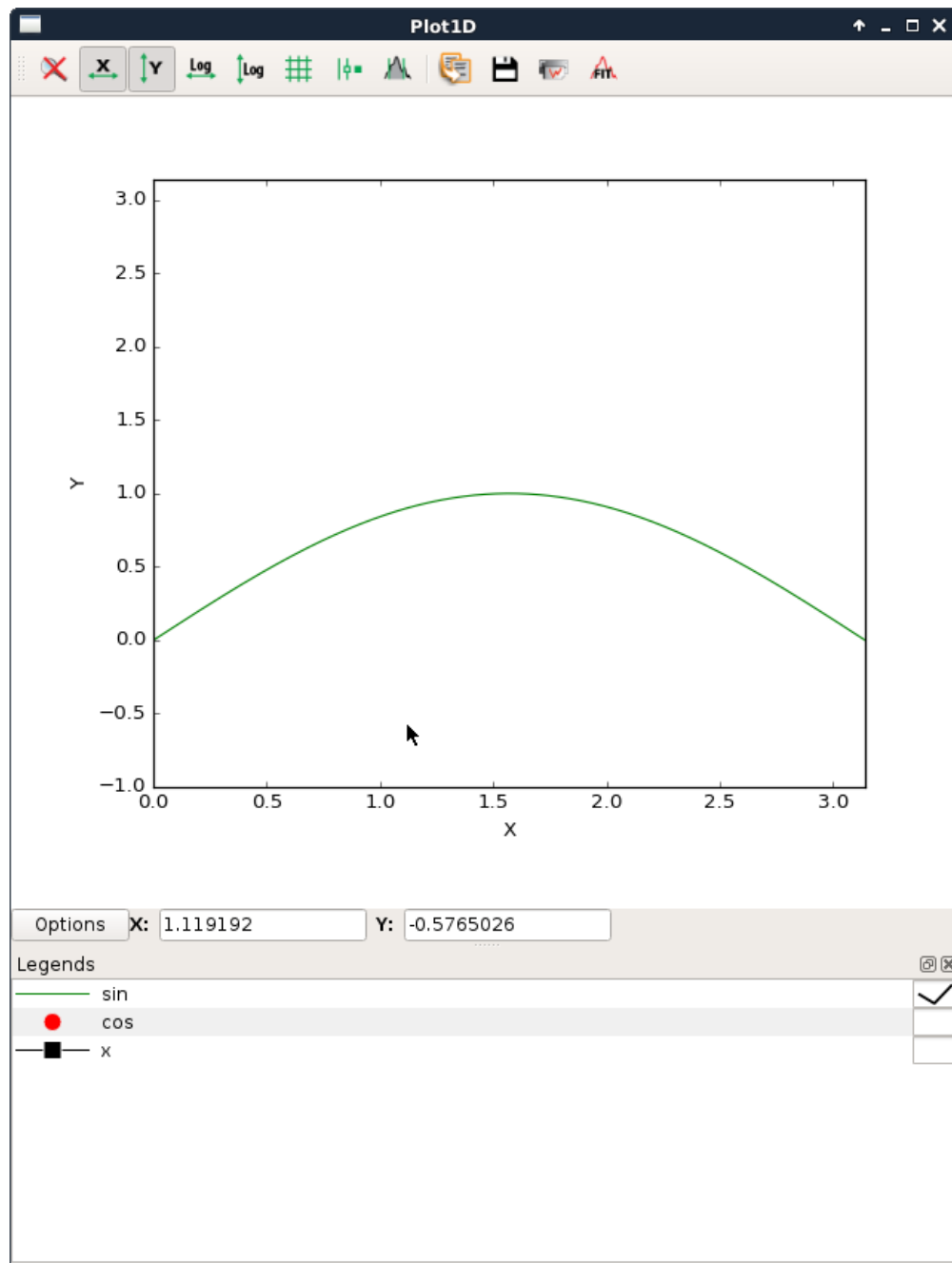- get all needed data from the 'Plot1D' object

shift exponential

```
In [ ]: ...
```

2 Many curves

2.1 plot the following functionin the same plot window

- $y = sin(x)$

- $y = cos(x)$

- $y = x$

- play with the curve selection from options->legend
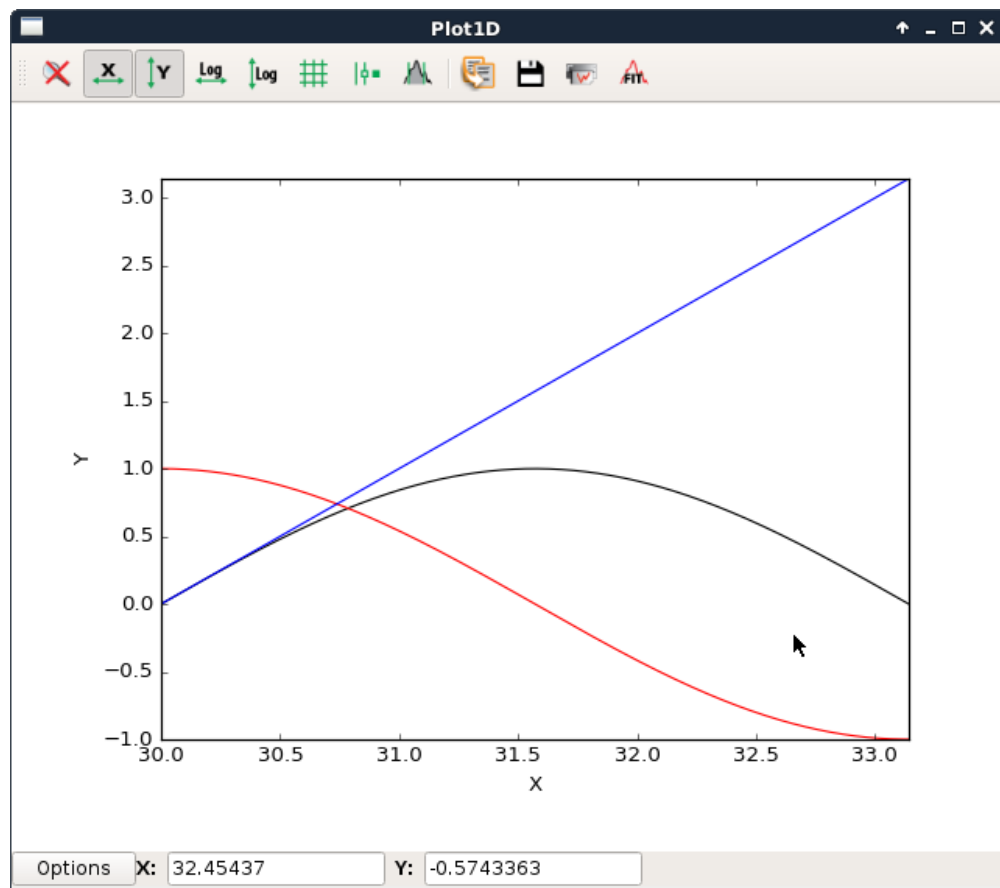
```
In [ ]: ...
```

3

plot_legends

2.2 remove one curve by the id

- using the 'Plot1D' object

```
In [ ]: ...
```

2.3 shift curves by 30 in the x axis

- by using the functions of the 'Plot1D' object
- keep at least the color of the curve
- Result should be close to

plot1D_shiftcurves

```
In [ ]: ...
```

3 ROI

3.1 load data from data/spectrum.dat

```
In [ ]: from silx.io import spech5
        sf = spech5.SpecH5("data/spectrum.dat")
```

```
#print(specfile['1.1/measurement/'].keys())
x_data=sf['1.1/measurement/channel']
y_data=sf['1.1/measurement/counts']
```

3.2 Plot the data
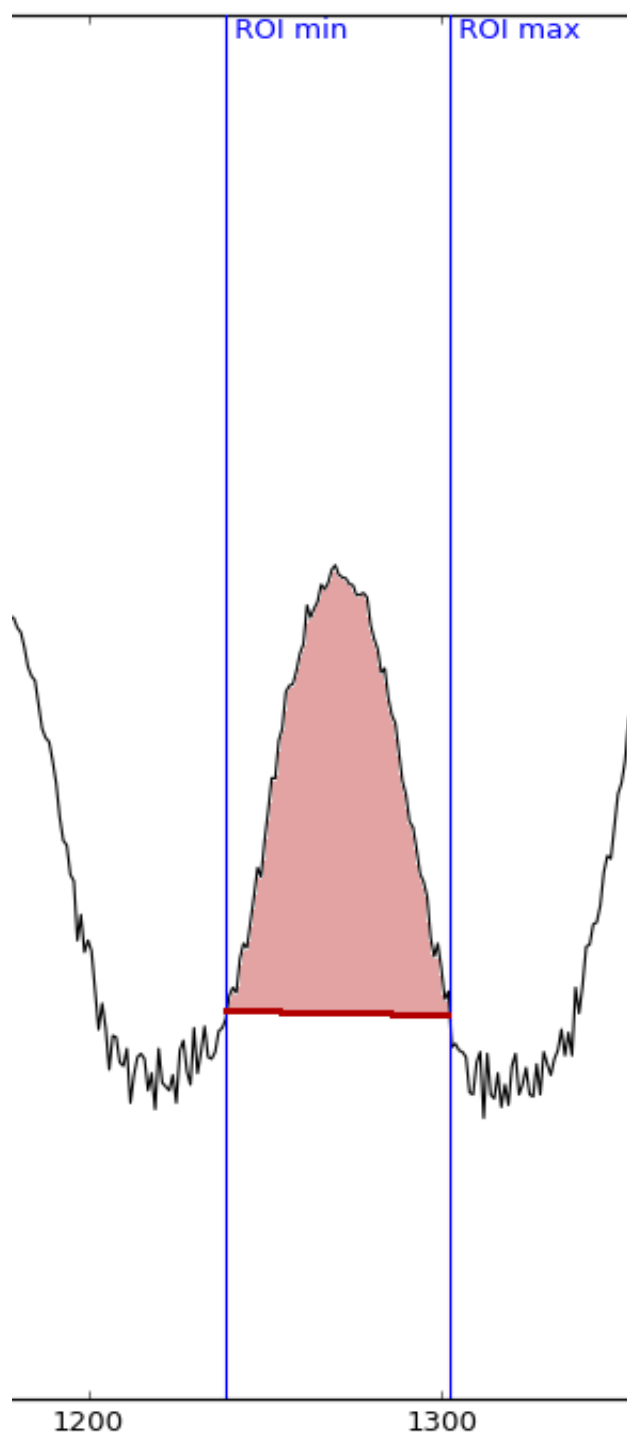
```
In [ ]: plot=Plot1D()
        x=numpy.linspace(0.0, numpy.pi)
        y=numpy.sin(x)
        plot.addCurve(x_data, y_data)
        plot.setYAxisLogarithmic(True)
        plot.show()
```

options -> ROI -> add ROI -> select min and max limits. estimate integral between lower
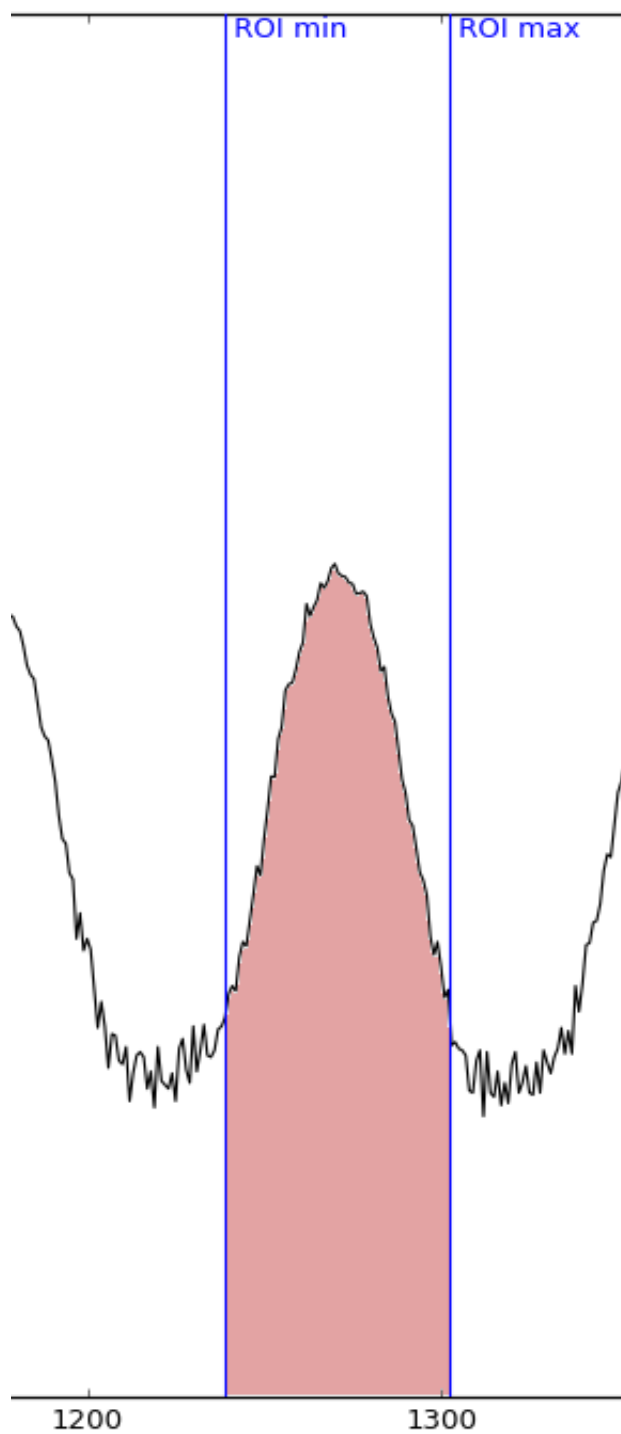
and upper limits - Raw counts   - Net counts

In [ ]: