Solution9

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In [1]:
```
import sys
sys.path.append("/home/3y9/Mantid/Build/bin")
from mantid.simpleapi import *
w=Load(Filename='/SNS/users/shared/MantidTrainingCourseData/GEM63437_focussed.nxs')
print type(w)

for wi in w:
    print wi.getName()
```

```
<class 'mantid.api._api.WorkspaceGroup'>
w_1
w_2
w_3
w_4
w_5
w_6
```

In [2]:
```
w2=w[1]
```

In [3]:
```
print w2.getName()
```

```
w_2
```

In [4]:
```
res=Fit(Function='name=LinearBackground,A0=0.0482315,A1=4.82895e-07;\
                  name=Lorentzian,Amplitude=42.469,PeakCentre=2436.87,FWHM=62.0123;\
                  name=Lorentzian,Amplitude=82.8674,PeakCentre=2862.83,FWHM=62.0123;\
                  name=Lorentzian,Amplitude=166.47,PeakCentre=4674.38,FWHM=62.0123;\
                  ties=(f2.FWHM=f1.FWHM,f3.FWHM=f1.FWHM)',
        InputWorkspace=w2,
        Output='GEM63437_fit',
        OutputCompositeMembers=True,
        StartX=2230,
        EndX=1E4)
print res
```

```
('success', 25.2342013500016, TableWorkspace
Columns: 10
Rows: 9
0 kB, TableWorkspace
Columns: 3
Rows: 12
0 kB, Workspace2D
Title:
Histograms: 7
Bins: 747
```

```
Histogram
X axis: Time-of-flight / microsecond
Y axis:
Distribution: False
Instrument:  (1990-Jan-01 to 1990-Jan-01)
Run start: not available
Run end:  not available
)
```

```
In [5]: print res[3].getName()

GEM63437_fit_Parameters

In [6]: pars=res[3]

In [7]: pars.keys()

Out[7]: ['Name', 'Value', 'Error']

In [8]: pars.columnCount()

Out[8]: 3

In [9]: pars.rowCount()

Out[9]: 12

In [10]: for i in range(1,pars.rowCount()):
             name=pars.cell(i,0)
             value=pars.cell(i,1)
             if name=='f1.PeakCentre':
                 f1c=value
             if name=='f2.PeakCentre':
                 f2c=value
             if name=='f3.PeakCentre':
                 f3c=value
         print f2c/f1c
         print f3c/f1c

1.17479799907
1.91819013735

In [10]:
```