JupyLabBook

May 7, 2020

Contents

1 Form

SIRIUS Beamline : Experiment 1234

Confined at home

- Type: Proposal
- Safety: Red
- Date: 07/05/2020-08/05/2020

- Main proposer: Hemmerle
- Local contact: Arnaud
- Users (on site): Person 1; Person 2
- Recording directory: /Users/arnaudhemmerle/Documents/Recherche/Analysis/JupyLabBook/recording/

- Machine:
  - Current: 450 mA
  - Mode: Hybrid

- Optics:
  - DCM: Si111
  - MGM: Not used
  - M1: M1-A Pt Track
  - M2: M2 Pt Track
  - M3: No M3
  - M4: M4 Pt Track

- Beam:
  - Fixed/Variable energy: Fixed
  - Energy (keV): 8
  - Wavelength (nm): 0.155
  - Harmonic: 19
  - Polarisation: LH
  - Phase (deg): 0
  - Horizontal focalisation False
  - Vertical focalisation True
  - Horizontal beamsize (mm): 0.1
- Monitors and XBPM:
  - mon1:
  - mon2: thick diamond
  - mon3:
  - mon4: thick diamond
  - Detectors: Pilatus
- Remarks: This was a nice experiment.

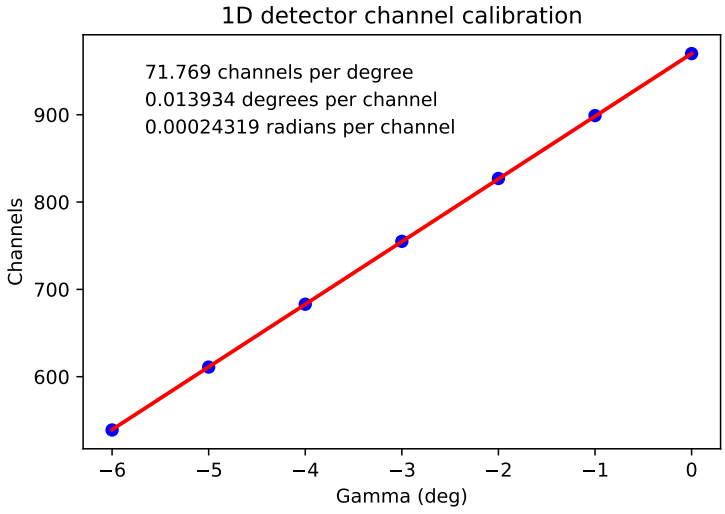
2 Alignment

2.1 Scan 681 -> 686 : Aligment M4

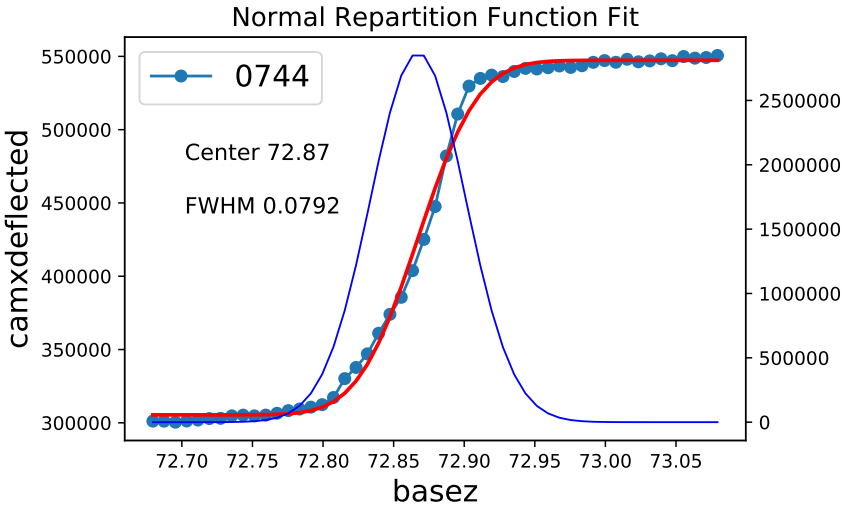
- Mirror parallel to beam m4pitch=-0.0197 deg
- Incidence :

$$\frac{786 - 558}{2 \times 2069} \times 0.0355 = 1.9 mrad$$

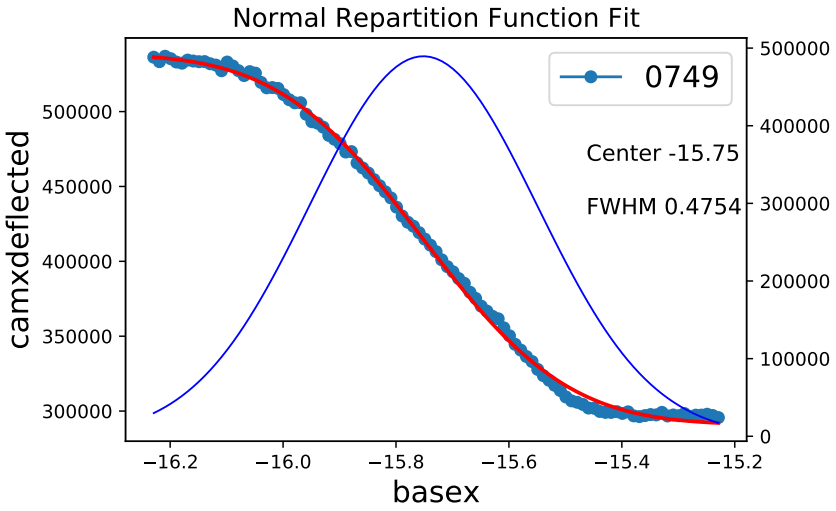
2.2 Calibration thetaz



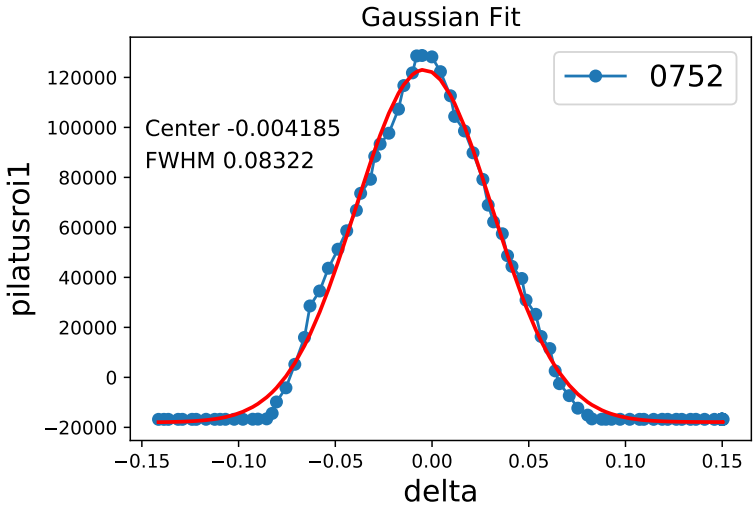
2.3 2020_03_11_0744: No command found



2.4 2020_03_11_0749: %sigmoid_dscan basex -.5 .5 100 .1

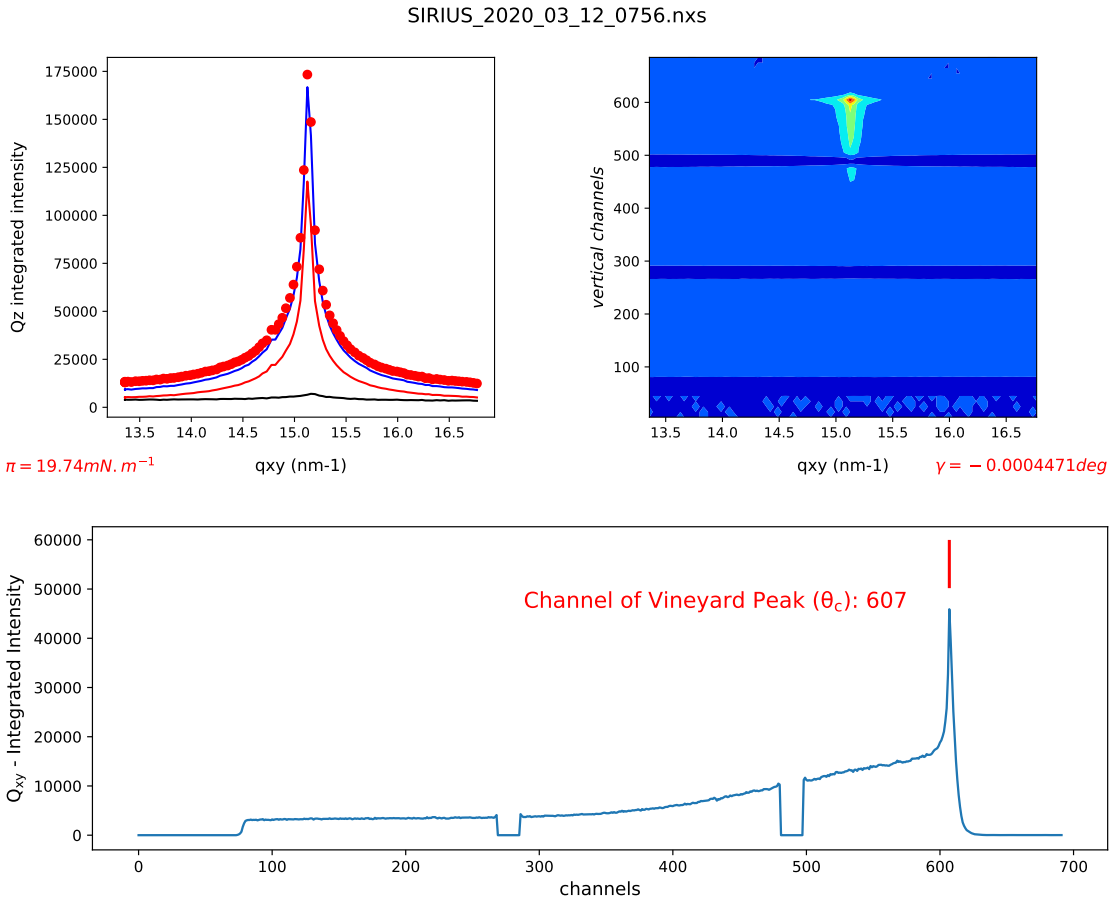


2.5 2020_03_11_0752: continuous_ascan delta -.15 .15 100 1



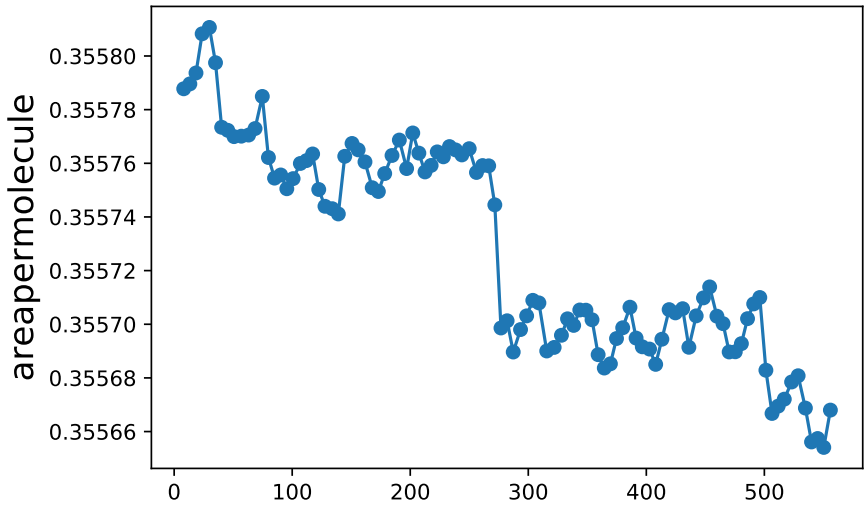
2.6 2020_03_12_0756: continuous_ascan delta -24 -19 100 5

```
 - Open Nexus Data File :
        /Users/arnaudhemmerle/Documents/Recherche/Analysis/JupyLabBook/recording
/SIRIUS_2020_03_12_0756.nxs
        . Number of data points:  101
        . Available Counters:
                0  -------->  delta
                1  -------->  zs
                2  -------->  gamma
                3  -------->  hu36energy
                4  -------->  xs
                5  -------->  energydcm
                6  -------->  current
                7  -------->  mon2
                8  -------->  surfacepressure
                9  -------->  areapermolecule
                10  -------->  qxy
                11  -------->  pilatus
                12  -------->  pilatusroi1
                13  -------->  integration_time
                14  -------->  sensorsRelTimestamps
                15  -------->  sensorsTimestamps
        . Pilatus data found, (column 11, alias pilatus)
        . qxy data found, (column 10, alias qxy)
        . Surface pressure data found, mean value 19.74 ± 0.006119 mN/m
        . Area per molecule data found, mean value 0.3557 ± 3.944e-05 nm2 per
molecule
        . Gamma motor data found, mean value -0.0004471 deg
```




```
Data not saved. To save data, run a GIXD on the scan.
Channel0: 607
```

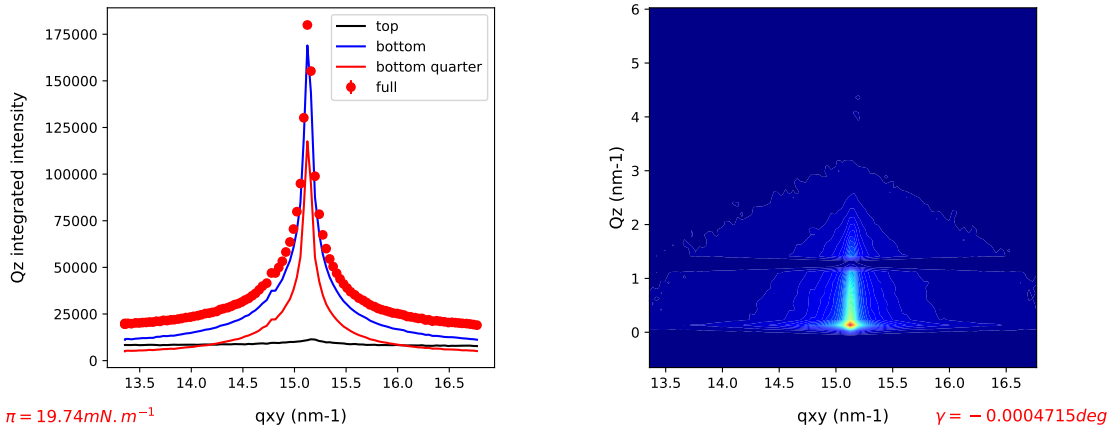
2.7 2020_03_12_0756: continuous_ascan delta -24 -19 100 5



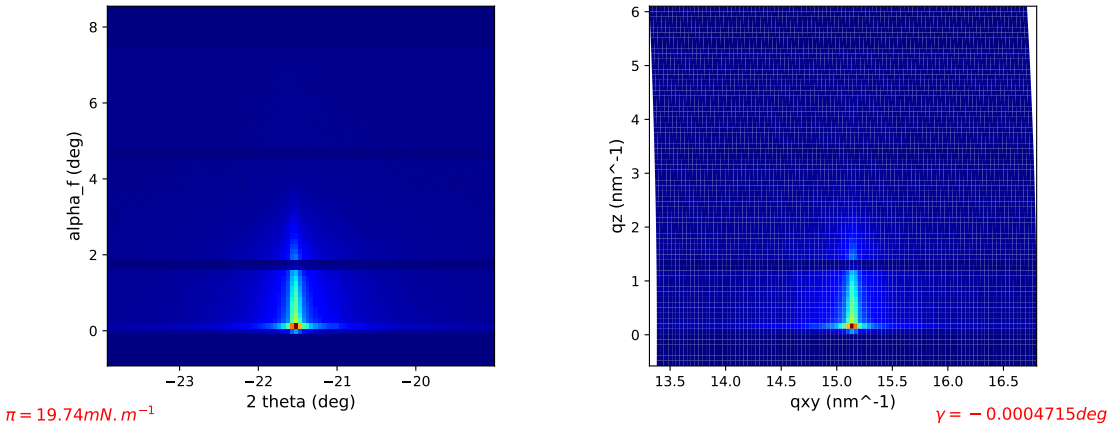
- Open Nexus Data File :
  /Users/arnaudhemmerle/Documents/Recherche/Analysis/JupyLabBook/recording

/SIRIUS_2020_03_12_0756.nxs
. Number of data points: 101
. Pilatus data found, (column 11, alias pilatus)
. qxy data found, (column 10, alias qxy)
. Valuable data between points 0 and 100
. Surface pressure data found, mean value 19.74 ± 0.006163 mN/m
. Area per molecule data found, mean value 0.3557 ± 3.866e-05 nm2 per molecule
. Gamma motor data found, mean value -0.0004715 deg
. For more details on the geometry, see:
-Fig.2 in doi:10.1107/S0909049512022017
-Slide 4 in http://gisaxs.com/files/Strzalka.pdf
. Data saved in text format

SIRIUS_2020_03_12_0756.nxs



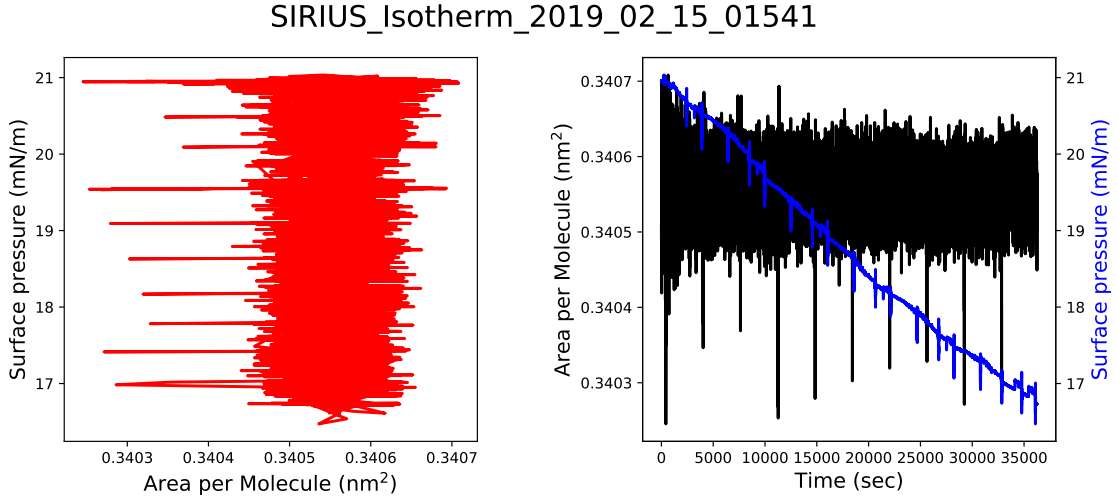
True GIXD



2.8 2019_02_15_01541: isotherm 1.97 46 35000 1

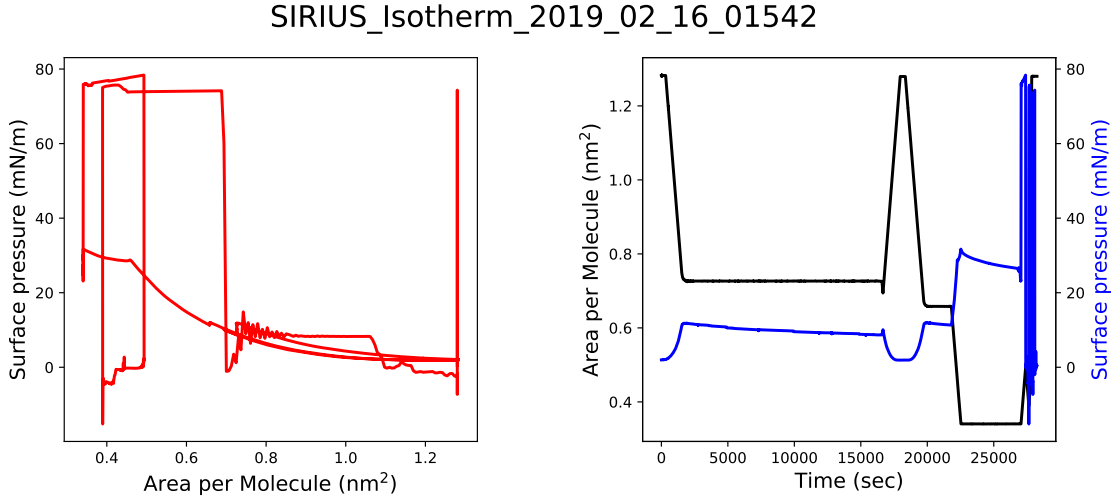
- Open Nexus Data File :
/Users/arnaudhemmerle/Documents/Recherche/Analysis/JupyLabBook/recording/SIRIUS_Isotherm_2019_02_15_01541.nxs
. Number of data points: 35001
. Area per molecule found column 1

. Surface pressure per molecule found column 2
. Time per molecule found column 4
. Valuable data between points 0 and 35000



2.9 2019_02_16_01542: isotherm 1.97 46 35000 1

- Open Nexus Data File :
/Users/arnaudhemmerle/Documents/Recherche/Analysis/JupyLabBook/recording
/SIRIUS_Isotherm_2019_02_16_01542.nxs
. Number of data points: 35001
. Area per molecule found column 1
. Surface pressure per molecule found column 2
. Time per molecule found column 4
. Valuable data between points 0 and 27280



2.10 2019_02_17_01544: isotherm 1.97 46 35000 1

- Open Nexus Data File :
/Users/arnaudhemmerle/Documents/Recherche/Analysis/JupyLabBook/recording

/SIRIUS_Isotherm_2019_02_17_01544.nxs

. Number of data points: 35001
. Area per molecule found column 1
. Surface pressure per molecule found column 2
. Time per molecule found column 4
. Valuable data between points 0 and 35000