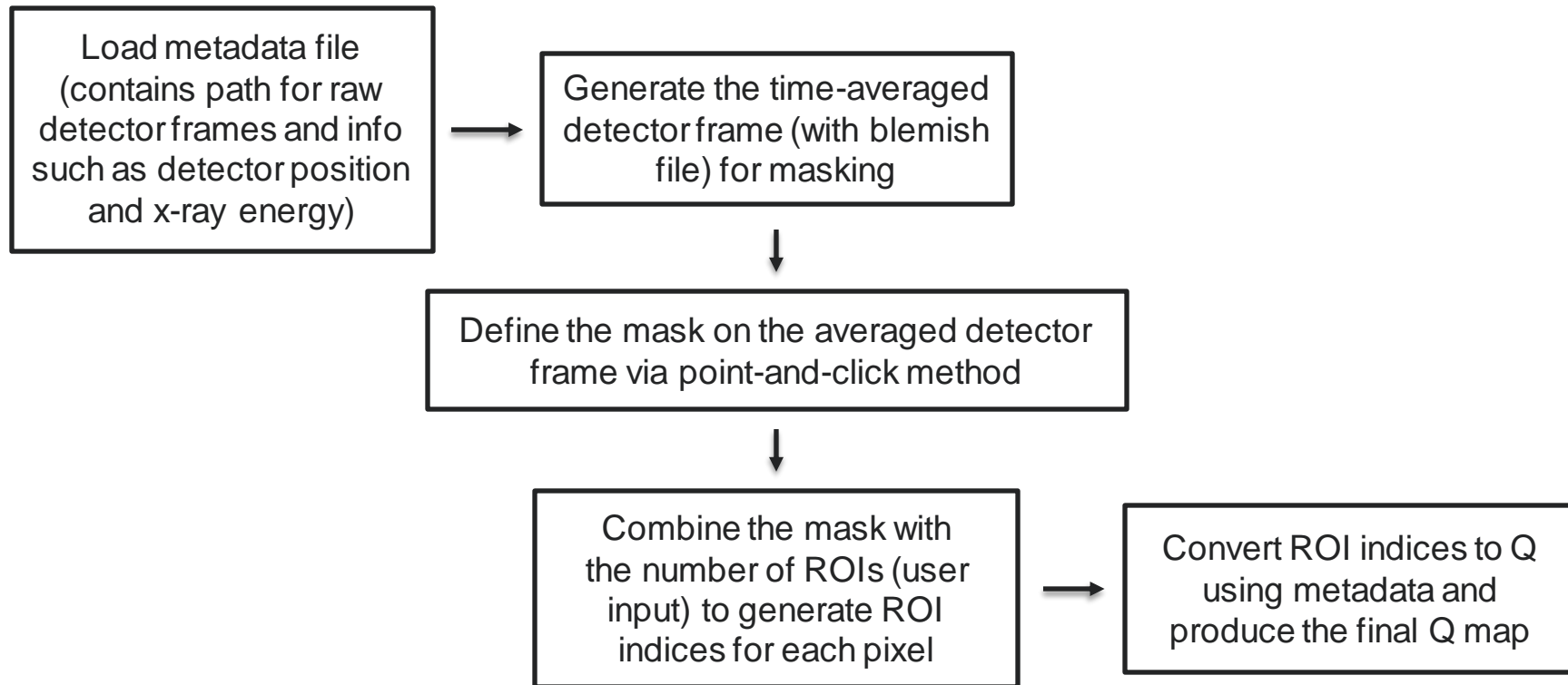


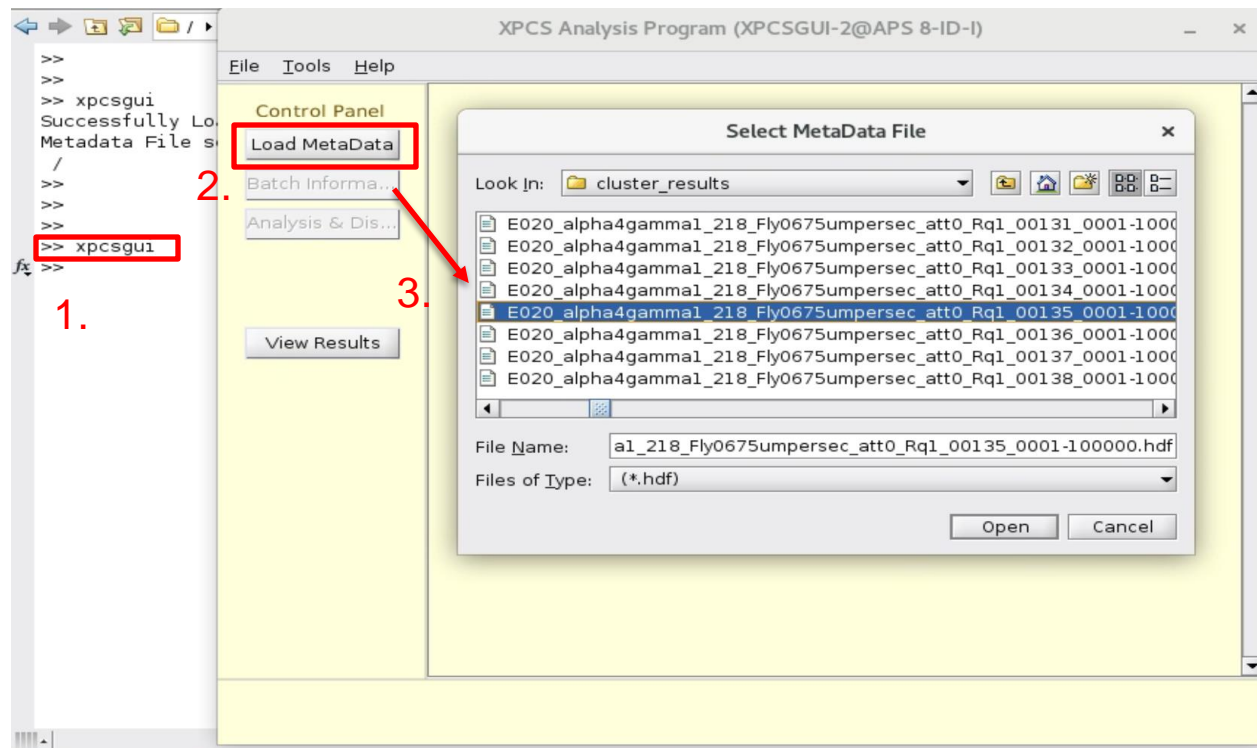
Data Flowchart for XPCS Q Map GUI

03/14/2020

Flowchart



Procedure



Full path of the file: /net/wolf/data/xpcs8/2021-1/lurio202103/cluster_results

Matlab path: /local/MATHWORKS_R2019a/bin/matlab

Procedure, Cont'd

The screenshot displays the XPCS Analysis Program (XPCSGUI-2@APS 8-ID-I) interface. The main window is titled "XPCS Analysis Program (XPCSGUI-2@APS 8-ID-I)". The "Control Panel" on the left contains buttons for "Load MetaData", "Batch Informa...", "Analysis & Dis..." (highlighted with a red box and labeled 4.), and "View Results". The main area shows "Successfully Loaded DAQ MetaData from .batchinfo equivalent: E020_alpha4gamma1_218_Fly0675umpersec_att0_Rq1_00135_0001-100000.hdf". Below this, it says "X-Ray Photon Correlation Spectroscopy (XPCS) Analysis" and "Argonne National Laboratory".

A red arrow points from the "Analysis & Dis..." button to the "XPCS - Analysis Settings" dialog box, which is labeled 5. The dialog box has a title bar "XPCS - Analysis Settings" and a "Close" button. The "Analysis Settings" section includes:

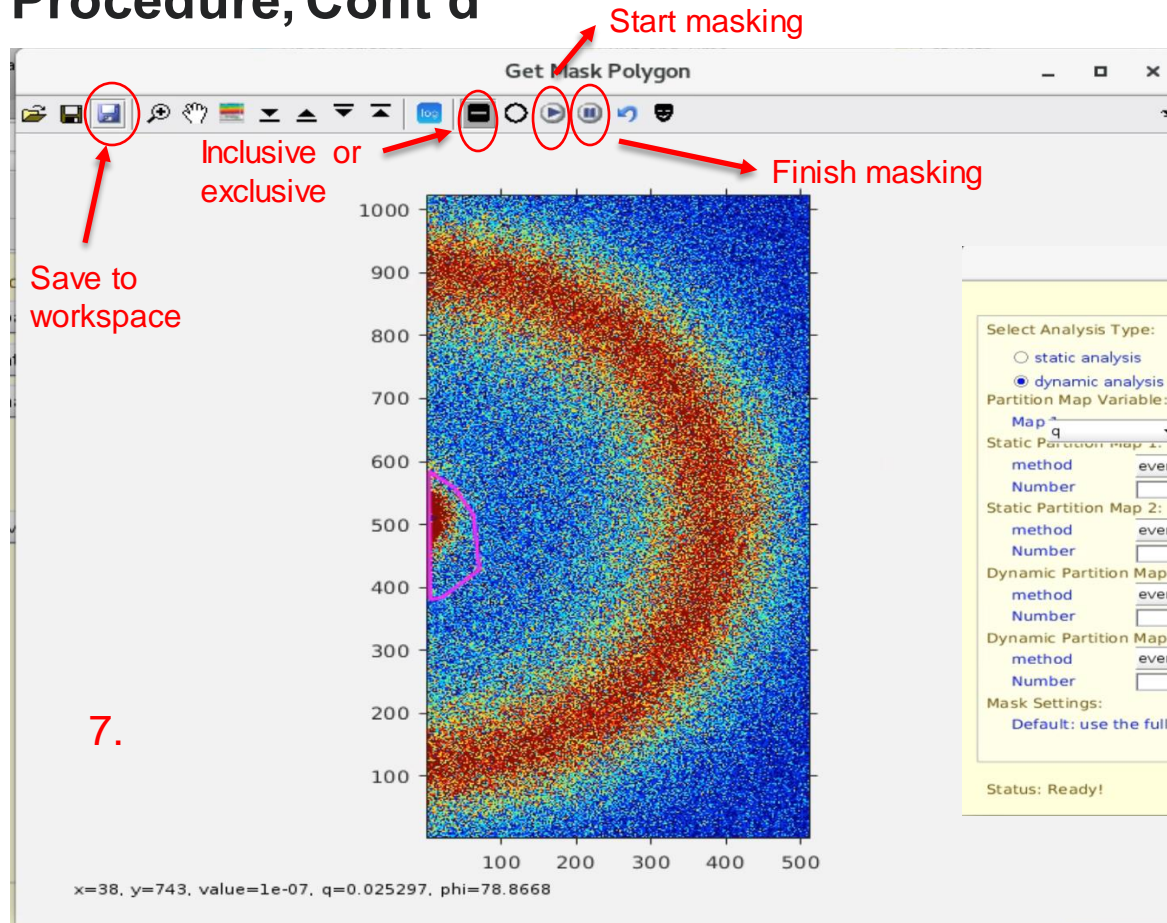
- Select Analysis Type:**
 - ☐ static analysis
 - ☒ dynamic analysis
- Partition Map Variable:**
 - Map q (dropdown)
 - Map ϕ (dropdown)
- Static Partition Map 1:**
 - method: evenly spaced (Linear)
 - Number: 360 (with "Brows..." button)
- Static Partition Map 2:**
 - method: evenly spaced (Linear)
 - Number: 1 (with "Brows..." button)
- Dynamic Partition Map 1:**
 - method: evenly spaced (Linear)
 - Number: 36 (with "Brows..." button)
- Dynamic Partition Map 2:**
 - method: evenly spaced (Linear)
 - Number: 1 (with "Brows..." button)
- Mask Settings:**
 - Default: use the full image
 - ☒ Mask Polygon (highlighted with a red box and labeled 6.)
 - ☐ Show Blemish

The "Dynamic Analysis Options" section includes:

- # of delays per multiple tau level:** 4
- Lower Level Discrimination (LLD):**
 - ☐ no LLD
 - ☒ 0 X ADU
 - ☐ X dark RMS
- SAVE q/phi digitized pixel map to a .h5 FILE**
- Enter q/phi map name:** Save map to .h5 file (button)
- q/phi Map Location:** View map from .h5 file (button)
- q/phi Map Location:** /home/8-id-i/partitionMapLibrary/2020-3/ (highlighted in yellow)

The "Status" bar at the bottom says "Status: Ready!". The dialog box has "Close", "Apply", and "Show Mask & Part..." buttons.

Procedure, Cont'd



XPCS - Analysis Settings

Analysis Settings

Select Analysis Type:

☐ static analysis

☒ dynamic analysis

Partition Map Variable:

Map q Map ϕ

Static Partition Map 1:

method evenly spaced (Linear)

Number 360 Brows...

Static Partition Map 2:

method evenly spaced (Linear)

Number 1 Brows...

Dynamic Partition Map 1:

method evenly spaced (Linear)

Number 36 Brows...

Dynamic Partition Map 2:

method evenly spaced (Linear)

Number 1 Brows...

Mask Settings:

Default: use the full image Mask Polygon Show Blemish

Status: Ready!

Dynamic Analysis Options:

of delays per multiple tau level 4

Lower Level Discrimination (LLD):

☐ no LLD ☒ X ADU ☐ X dark RMS

SAVE q/phi digitized pixel map to a .h5 FILE

Enter q/phi map name: Save map to .h5 file

username_qmap_sampleid_Sq1

q/phi Map Location: View map from .h5 file

/home/B-id-/partitionMapLibrary/2020-03/

8. 9.

Close Apply Show Mask & Part...

Procedure, Cont'd

MATLAB R2019a

HOME PLOTS APPS xpcsgui2_anal... Search Documentation Sign In

New Script New Live Script New Open Compare Import Data Save Workspace Open Variable Clear Workspace CODE ENVIRONMENT RESOURCES

FILE VARIABLE

/ > home > 8ididata > 2021-1 > lurio202103 > cluster_results >

Reading Results took 0.4 Seconds

Done adding the selected MULTITAU results to VIEW RESULT GUI..
Use the GUI to pick and plot

>> close all

Unknown mode: seems neither compressed nor Raw /net/wolf/data/xpcs8/2021-1/lurio202103/E017_alpha4gammal_1/net/wolf/data/xpcs8/2021-1/lurio202103/E017_alpha4gammal_286_Fly1250umpersec_att0_Rq1_00046/E017_al

Name	Size	Bytes	Class	Attributes
data	3478488x1	27827904	uint64	

Begin Picking Bits

File reading is done

Elapsed time is 0.350670 seconds.

dynamic q-values are:

dynamic_q_values	dynamic_Phi_values	Num_Pixels_in_bin	Index
0.00974458083510399	0.0345290675759315	23820	1
0.0211461931467056	-0.0175480060279369	67758	2
0.033549215644598	0.000913190422579646	111626	3
0.0461022667586803	-4.48841929028276e-05	155500	4
0.0572592802345753	0.377685338258743	120075	5
0.0689385458827019	0.621898055076599	30154	6

CCD positions are: ccdx=132.000000,ccdz=-40.200001,ccdx0=152.000000,ccdz0=-40.200001

~~~~~

QMAP Location is: /home/8-id-i/partitionMapLibrary/2021-1/  
QMAP Filename is: username\_qmap\_sampleid\_Sq1.h5  
Full QMAP Filename is: /home/8-id-i/partitionMapLibrary/2021-1/username\_qmap\_sampleid\_Sq1.h5

~~~~~

f> >> x

10.

