



DAN-SANS. Data Reduction. Example.

Instrument:	KWS-3
Date of the Experiment:	March.2020
QtiSAS Version:	>01.03.2021
DAN-SANS “Instrument”:	KWS3-2020

STEP 0: Preparations

Activation: DAN-SANS

Table1

	1[X]	2[Y]
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Project Explorer

Name	Type	View	Created	Label
Table1	Table	Normal	03.03.21 12:27	

Results Log Project Explorer

Helvetica 0 B It U x² x₂ αβ Γ f Unicode

DAN
SANS

FIT

FIT

SVD

JNSE

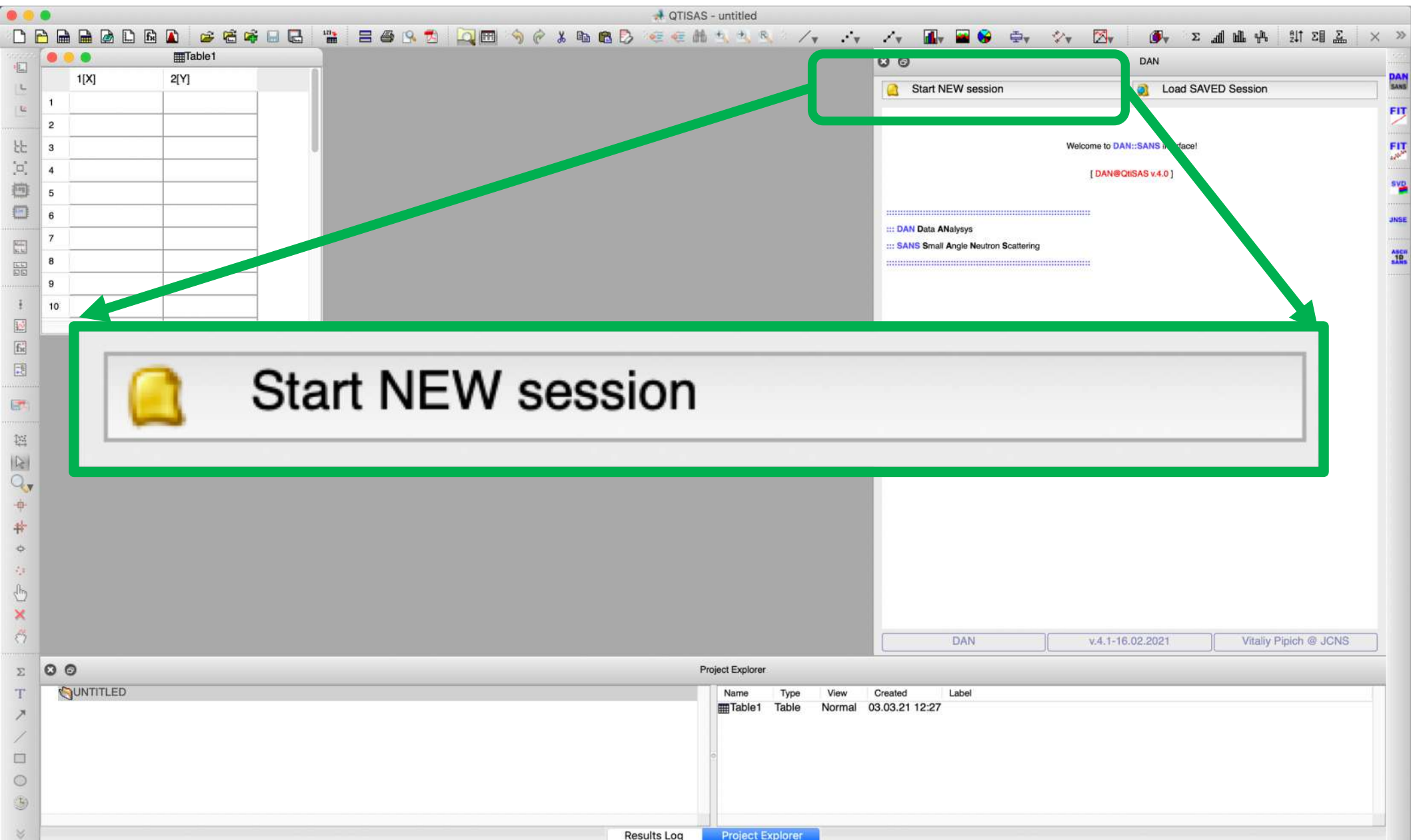
FIT

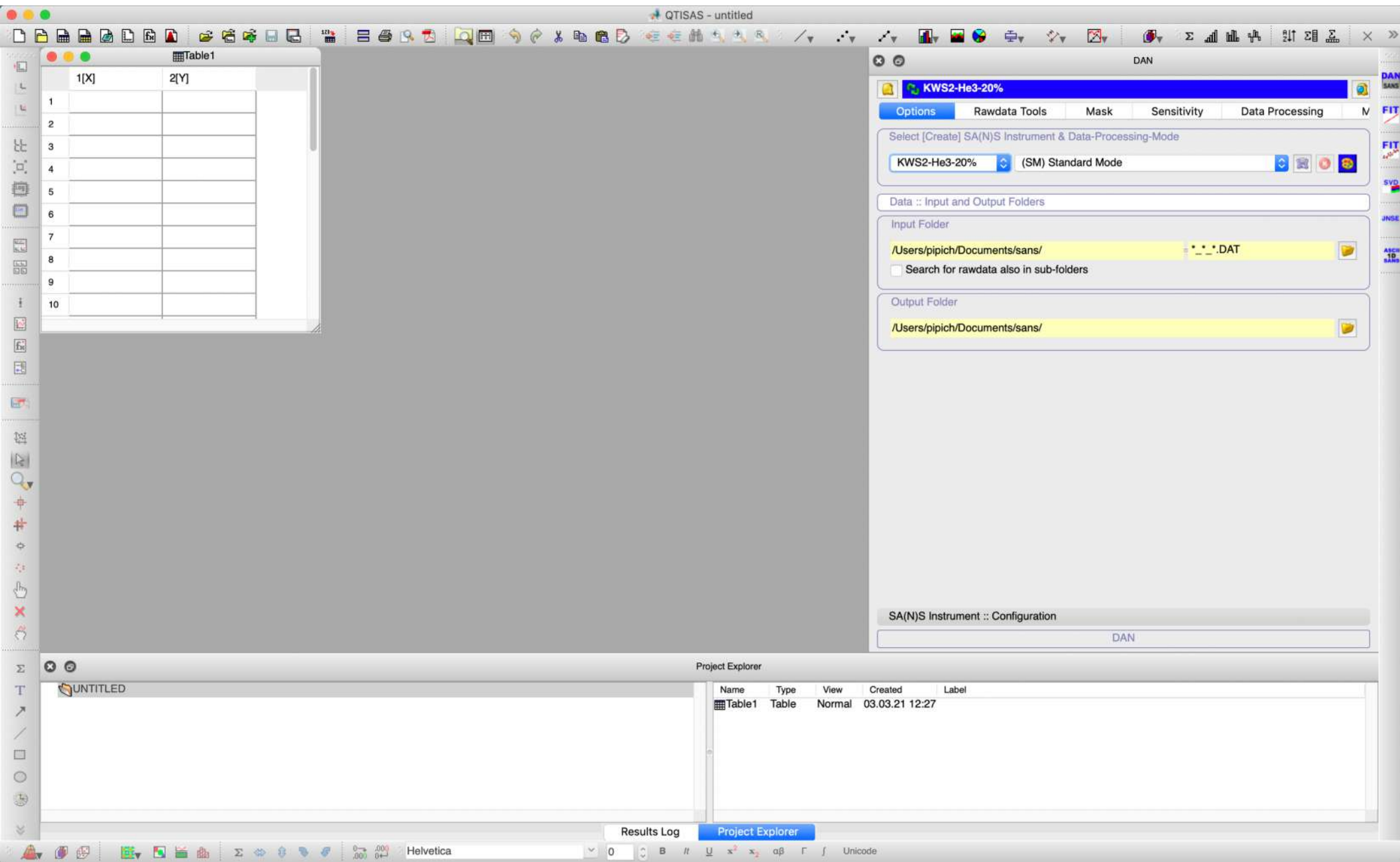
SVD

JNSE

ASCII
1D
SANS

Starting of “New Session”





	1[X]	2[Y]
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

KWS2-He3-20%

OptionsRawdata ToolsMaskSensitivityData ProcessingM

Select [Create] SA(N)S Instrument & Data-Processing-Mode

KWS2-He3-20% (SM) Standard Mode

Data :: Input and Output Folders

Input Folder

/Users/pipich/Documents/sans/ *.DAT

☐ Search for rawdata also in sub-folders

Output Folder

/Users/pipich/Documents/sans/

SA(N)S Instrument :: Configuration

DAN

Name	Type	View	Created	Label
UNTITLED				
Table1	Table	Normal	03.03.21 12:27	

STEP 1: Instrument Selection

Select Data-Reduction-Instrument: KWS3-2020

QTISAS - untitled

Table1

	1[X]	2[Y]
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

✓ KWS1-2020
KWS2-He3-20%
KWS2-He3-10%
KWS2-HRD
KWS3-2020
KWS3-VHRD-2020
MARIA
SANS1
KWS1
KWS1-He3
KWS2
KWS3
kws3-2016
kws3-2017-nicos
KWS3-2018
KWS3-VHRD
KWS3-VHRD-2018
GALAXI-SAXS-LONG
GALAXI-SAXS-SHORT
KWS-BINARY
KWS3-2020-plus-seop
KWS3-2020-plus-seop1

DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing

Select [Create] SA(N)S Instrument & Data-Processing-Mode

- ✓ KWS1-2020
- KWS2-He3-20%
- KWS2-He3-10%
- KWS2-HRD
- KWS3-2020**
- KWS3-VHRD-2020
- MARIA
- SANS1
- KWS1
- KWS1-He3
- KWS2
- KWS3
- kws3-2016
- kws3-2017-nicos
- KWS3-2018
- KWS3-VHRD
- KWS3-VHRD-2018
- GALAXI-SAXS-LONG
- GALAXI-SAXS-SHORT
- KWS-BINARY
- KWS3-2020-plus-seop
- KWS3-2020-plus-seop1

SA(N)S Instrument :: Configuration

DAN

Project Explorer

Name	Type	View	Created	Label
Table1	Table	Normal	12.03.21 02:05	

Results Log Project Explorer

Helvetica

Selected: KWS3-2020

Table1

1[X]	2[Y]
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData Processing

Select [Create] SA(N)S Instrument & Data-Processing-Mode

KWS3-2020(SM) Standard Mode

Data :: Input and Output Folders

Input Folder

/Users/pipich/Documents/sans/kws3/HRD_standard.yaml

☐ Search for rawdata also in sub-folders

Output Folder

/Users/pipich/Documents/sans/

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData Processing

Select [Create] SA(N)S Instrument & Data-Processing-Mode

KWS3-2020(SM) Standard Mode

SA(N)S Instrument :: Configuration

DAN

Project Explorer

Name	Type	View	Created	Label
Table1	Table	Normal	12.03.21 02:05	

Results Log

Project Explorer

STEP 2: Raw-Data Path Selection

Select Path (Folder) where your data is located

The screenshot displays the QTISAS software interface. A file selection dialog is open, showing a list of files in the 'data' folder. A green arrow points from the 'Input Folder' field in the 'Data Processing' configuration window to the file selection dialog. The 'Data Processing' window shows the 'Input Folder' set to '/Users/pipich/Documents/sans/kws3/'. The 'Project Explorer' at the bottom shows a table named 'Table1'.

File Selection Dialog:

Name	Date Modified	Size
00082646_0000_H-J_HRD_standard.yaml	Today at 02:04	16 KB
00082647_0000_H-L_HRD_standard.yaml	Today at 02:04	16 KB
00082648_0000_H-M_HRD_standard.yaml	Today at 02:03	16 KB
00082645_0000_EB_HRD_standard.yaml	Today at 02:03	16 KB
00082561_0000_H-L_HRD_standard.yaml	Today at 01:59	16 KB
00082559_0000_H-J_HRD_standard.yaml	Today at 01:58	16 KB
00082558_0000_EB_HRD_standard.yaml	Today at 01:58	16 KB
00082557_0000_H-M_HRD_standard.yaml	Today at 01:58	16 KB
00082648_0000_H-M_HRD_standard.det	15. Mar 2020 at 22:48	141 KB
00082647_0000_H-L_HRD_standard.det	15. Mar 2020 at 21:48	142 KB
00082646_0000_H-J_HRD_standard.det	15. Mar 2020 at 20:48	140 KB
00082645_0000_EB_HRD_standard.det	15. Mar 2020 at 19:47	139 KB
00000001_0000_sensitivity_HRD_standard.det	15. Mar 2020 at 18:10	285 KB
00000001_0000_sensitivity_HRD_standard.yaml	15. Mar 2020 at 18:10	16 KB
00000002_0000_b4c_HRD_standard.det	15. Mar 2020 at 18:10	131 KB
00000002_0000_b4c_HRD_standard.yaml	15. Mar 2020 at 18:10	16 KB
00082558_0000_EB_HRD_standard.det	15. Mar 2020 at 18:09	134 KB
00082557_0000_H-M_HRD_standard.det	15. Mar 2020 at 18:08	141 KB
00082559_0000_H-J_HRD_standard.det	15. Mar 2020 at 18:08	139 KB
00082561_0000_H-L_HRD_standard.det	15. Mar 2020 at 18:08	143 KB

Data Processing Configuration:

Options: Rawdata Tools, Mask, Sensitivity, Data Processing

Select [Create] SA(N)S Instrument & Data-Processing-Mode

KWS3-2020 (SM) Standard Mode

Data :: Input and Output Folders

Input Folder: /Users/pipich/Documents/sans/kws3/

Search for rawdata also in sub-folders

Output Folder: /Users/pipich/Documents/sans/

SA(N)S Instrument :: Configuration

DAN

Project Explorer:

Name	Type	View	Created	Label
Table1	Table	Normal	12.03.21 02:05	

Path (Folder): selected

Table1

	1[X]	2[Y]
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData Processing

Select [Create] SA(N)S Instrument & Data-Processing-Mode

KWS3-2020(SM) Standard Mode

Data :: Input and Output Folders

Input Folder

Documents/sans/qtisas-documentation/dan-sans/kws-3/data/*_*_*_HRD_standard.yaml

☒ Search for rawdata also in sub-folders

Output Folder

/Users/pipich/Documents/sans/qtisas-documentation/dan-sans/kws-3/

Project Explorer

UNTITLED

Name	Type	View	Created	Label
Table1	Table	Normal	12.03.21 02:05	

Input Folder

Documents/sans/qtisas-documentation/dan-sans/kws-3/data/*_*_*_HRD_standard.yaml

☒ Search for rawdata also in sub-folders

SA(N)S Instrument :: Configuration

DAN

Results LogProject Explorer

Helvetica

STEP 3 (optional): Data-Information-Table Generation

3.1 Go to Rawdata Tools tab

Table1

	1[X]	2[Y]
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

DAN

KWS-2020

OptionsRawdata ToolsMaskSensitivityData Processing

Rawdata Tools

:: Header(s) - to - Info-Table ::

☐ Compact☐ + Matrixes

☐ Detector Sum for active Mask

:: Header(s) - Info Extractor ::

Sample

+ Add

:: Merge :: Raw Files ::

Select Files & Merge

Merge Files in Active Table (2 steps):

Select Files & Create TableMerge

:: Image(s) - to - Info-Matrix ::

columns: 3

☐ Mask☐ Sens☐ Norm☐ ROI☐ Ascii

:: Fast Info Extractor ::

Plot Matrix [Plot-Active]

:: Extract :: Raw-matrixes ::

from: INPUT folder

to: OUTPUT/raw-matrix folder

Extract

RT :: KWS-1&2 :: Real Time Tools

TOF :: KWS-1&2 :: Time Of Flight Tools

DAN

Project Explorer

UNTITLED

Name	Type	View	Created	Label
Table1	Table	Normal	12.03.21 02:05	

Results LogProject Explorer

Helvetica0B//x²x₃αβΓfUnicode

3.2 Push “+” Button and enter Table Name

The screenshot displays the QTISAS software interface. In the top left, a table titled 'Table1' is visible with columns '1[X]' and '2[Y]' and rows 1 through 10. The main workspace shows the 'Rawdata Tools' panel on the right, which includes sections for 'Header(s) - to - Info-Table', 'Header(s) - to - Info-Matrix', 'Fast Info Extractor', and 'Merge :: Raw Files'. A green box highlights a '+' button in the 'Header(s) - to - Info-Table' section. A green arrow points from this button to the 'Table's Generator' dialog box, which is titled 'Table's Generator...' and contains the text 'Enter name of Table:' followed by a text input field containing 'info-table'. Below the input field are 'Cancel' and 'OK' buttons. Another green arrow points from the 'Table's Generator' dialog box to a larger '+' button icon in the top right corner of the image.

Table1

	1[X]	2[Y]
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Table's Generator...

Enter name of Table:

info-table

Cancel OK

Rawdata Tools

Header(s) - to - Info-Table ::

Header(s) - to - Info-Matrix ::

Fast Info Extractor ::

Merge :: Raw Files ::

Project Explorer

Name	Type	View	Created	Label
Table1	Table	Normal	12.03.21 02:05	

3.3 Select Data to get Information

The screenshot displays the QTISAS software interface. On the left, a file selection dialog is open, showing a list of files in the 'data' folder. The files are organized by name, date modified, and size. The files are categorized by their extension: .det (detector image) and .yaml (header file). The main application window on the right shows the 'Rawdata Tools' tab, which includes options for selecting files and creating a table. The 'Project Explorer' at the bottom shows the current project structure, including a table named 'Table1'.

Table1

	1[X]	2[Y]
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

data

Name	Date Modified	Size
00000001_0000_sensitivity_HRD_standard.det	15. Mar 2020 at 18:10	285 KB
00000001_0000_sensitivity_HRD_standard.yaml	15. Mar 2020 at 18:10	16 KB
00000002_0000_b4c_HRD_standard.det	15. Mar 2020 at 18:10	131 KB
00000002_0000_b4c_HRD_standard.yaml	15. Mar 2020 at 18:10	16 KB
00082557_0000_H-M_HRD_standard.det	15. Mar 2020 at 18:08	141 KB
00082557_0000_H-M_HRD_standard.yaml	Today at 01:57	16 KB
00082558_0000_EB_HRD_standard.det	15. Mar 2020 at 18:09	134 KB
00082558_0000_EB_HRD_standard.yaml	Today at 01:58	16 KB
00082559_0000_H-J_HRD_standard.det	15. Mar 2020 at 18:08	139 KB
00082559_0000_H-J_HRD_standard.yaml	Today at 01:58	16 KB
00082561_0000_H-L_HRD_standard.det	15. Mar 2020 at 18:08	143 KB
00082561_0000_H-L_HRD_standard.yaml	Today at 01:59	16 KB
00082645_0000_EB_HRD_standard.det	15. Mar 2020 at 19:47	139 KB
00082645_0000_EB_HRD_standard.yaml	Today at 02:03	16 KB
00082646_0000_H-J_HRD_standard.det	15. Mar 2020 at 20:48	140 KB
00082646_0000_H-J_HRD_standard.yaml	Today at 02:04	16 KB
00082647_0000_H-L_HRD_standard.det	15. Mar 2020 at 21:48	142 KB
00082647_0000_H-L_HRD_standard.yaml	Today at 02:04	16 KB
00082648_0000_H-M_HRD_standard.det	15. Mar 2020 at 22:48	141 KB
00082648_0000_H-M_HRD_standard.yaml	Today at 02:03	16 KB

Options Rawdata Tools Mask Sensitivity Data Processing

Rawdata Tools

Header(s) - to - Info-Table ::

info-table

Compact + Matrixes

Detector Sum for active Mask

Header(s) - Info Extractor ::

Sample

Merge :: Raw Files ::

Select Files & Merge

Merge Files in Active Table (2 steps):

Select Files & Create Table

Image(s) - to - Info-Matrix ::

columns: 3

Mask Sens Norm ROI Ascii

Fast Info Extractor ::

Plot Matrix [Plot-Active]

Extract :: Raw-matrixes ::

from: INPUT folder

to: OUTPUT/raw-matrix folder

Project Explorer

Name	Type	View	Created	Label
Table1	Table	Normal	12.03.21 02:05	

Results Log Project Explorer

Helvetica

Every run measured @ KWS-3 has two files:

- *.det detector image
- *.yaml header file

We select only header files!

3.4 “info-table” is generated

Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date
1	sensitivity	out	00000001	10	9.500	12.787 1.5x1.5I0.0x0.0	41348	26000	1.59031	2017-06-19
2	B4C	out	00000002	10	10.000	12.787 1.5x1.5I0.0x0.0	41348	20000	2.0674	2017-06-19
3	H-M	out	00082557	10	9.200	12.787 2.0x2.0I20.0x20.0	4.95806e+06	2000	2479.03	2020-03-15
4	EB	out	00082558	10	9.200	12.787 2.0x2.0I20.0x20.0	3.4473e+06	1200	2872.75	2020-03-15
5	H-J	out	00082559	10	9.200	12.787 2.0x2.0I20.0x20.0	4.95999e+06	2000	2479.99	2020-03-15
6	H-L	out	00082561	10	9.200	12.787 2.0x2.0I20.0x20.0	5.83888e+06	2369.72	2463.95	2020-03-15
7	EB	out	00082645	10	1.200	12.787 2.0x2.0I6.5x8.0	1.66938e+07	3600	4637.17	2020-03-15
8	H-J	out	00082646	10	1.200	12.787 2.0x2.0I6.5x8.0	1.44244e+07	3600	4006.78	2020-03-15
9	H-L	out	00082647	10	1.200	12.787 2.0x2.0I6.5x8.0	1.42507e+07	3600	3958.53	2020-03-15
10	H-M	out	00082648	10	1.200	12.787 2.0x2.0I6.5x8.0	1.44525e+07	3600	4014.58	2020-03-15

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData Processing

Rawdata Tools

Header(s) - to - Info-Table ::

info-table

☐ Compact☐ + Matrixes

☐ Detector Sum for active Mask

Header(s) - Info Extractor ::

Sample

Add

Merge :: Raw Files ::

Select Files & Merge

Merge Files in Active Table (2 steps):

Select Files & Create TableMerge

Image(s) - to - Info-Matrix ::

columns: 3

☐ Mask☐ Sens☐ Norm☐ ROI☐ Ascii

Fast Info Extractor ::

Plot Matrix [Plot-Active]

Extract :: Raw-matrixes ::

from: INPUT folder

to: OUTPUT/raw-matrix folder

Extract

RT :: KWS-1&2 :: Real Time Tools

TOF :: KWS-1&2 :: Time Of Flight Tools

DAN

Project Explorer

Name	Type	View	Created	Label
info-table	Table	Maximized	12.03.21 02:18	Info::Table

UNTITLED

DAN :: script, info, ...

Results Log

Project Explorer

Helvetica0BItUx2aßFUnicode

STEP 4 (optional): Data “Understanding”

Samples

	Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date	Time	F
1	sensitivity	out	00000001	10	9.500	12.787	1.5x1.5 0.0x0.0	41348	26000	1.59031	2017-06-19	11:35:01	
2	B4C	out	00000002	10	10.000	12.787	1.5x1.5 0.0x0.0	41348	20000	2.0674	2017-06-19	11:35:01	
3	H-M	out	00082557	10	9.200	12.787	2.0x2.0 20.0x20.0	4.95806e+06	2000	2479.03	2020-03-15	14:29:50	
4	EB	out	00082558	10	9.200	12.787	2.0x2.0 20.0x20.0	3.4473e+06	1200	2872.75	2020-03-15	15:03:54	
5	H-J	out	00082559	10	9.200	12.787	2.0x2.0 20.0x20.0	4.95999e+06	2000	2479.88	2020-03-15	15:24:45	
6	H-L	out	00082561	10	9.200	12.787	2.0x2.0 20.0x20.0	5.83888e+06	2369.72	2463.95	2020-03-15	16:39:50	
7	EB	out	00082645	10	1.200	12.787	2.0x2.0 6.5x8.0	1.66938e+07	3600	4637.17	2020-03-15	18:47:23	
8	H-J	out	00082646	10	1.200	12.787	2.0x2.0 6.5x8.0	1.44244e+07	3600	4006.78	2020-03-15	19:48:09	
9	H-L	out	00082647	10	1.200	12.787	2.0x2.0 6.5x8.0	1.42507e+07	3600	3154.53	2020-03-15	20:48:35	
10	H-M	out	00082648	10	1.200	12.787	2.0x2.0 6.5x8.0	1.44525e+07	3600	4014.58	2020-03-15	21:48:58	

3 samples: H-J, H-L, H-M;
2 configurations: **D9.2m**[s.aperture 20x20mm²], **D1.2m** [s.aperture 6.5x8mm²]
(WaveLength 12.8A, c.aperture 2x2mm²)

“Dark Current”

	Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date	Time	F
1	sensitivity	out	00000001	10	9.500	12.787	1.5x1.5 0.0x0.0	41348	26000	1.59031	2017-06-19	11:35:01	
2	B4C	out	00000002	10	10.000	12.787	1.5x1.5 0.0x0.0	41348	26000	1.59031	2017-06-19	11:35:01	
3	H-M	out	00082557	10	9.200	12.787	2.0x2.0 20.0x20.0	4.95806e+06	2000	2479.03	2020-03-15	14:29:50	
4	EB	out	00082558	10	9.200	12.787	2.0x2.0 20.0x20.0	3.4473e+06	1200	2872.75	2020-03-15	15:03:54	
5	H-J	out	00082559	10	9.200	12.787	2.0x2.0 20.0x20.0	4.95999e+06	2000	2479.99	2020-03-15	15:24:45	
6	H-L	out	00082561	10	9.200	12.787	2.0x2.0 20.0x20.0	5.83888e+06	2369.72	2463.95	2020-03-15	16:39:50	
7	EB	out	00082645	10	1.200	12.787	2.0x2.0 6.5x8.0	1.66938e+07	3600	4637.17	2020-03-15	18:47:23	
8	H-J	out	00082646	10	1.200	12.787	2.0x2.0 6.5x8.0	1.44244e+07	3600	4006.78	2020-03-15	19:48:09	
9	H-L	out	00082647	10	1.200	12.787	2.0x2.0 6.5x8.0	1.42507e+07	3600	3958.53	2020-03-15	20:48:35	
10	H-M	out	00082648	10	1.200	12.787	2.0x2.0 6.5x8.0	1.44525e+07	3600	4014.58	2020-03-15	21:48:58	

Dark Current, B4C

Detector Dark Current : #00000002 (blocked beam with B4C)

Ask local contact to provide this file (single file will be used in all configurations)

Empty Beam/Cell

	Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date	Time	F
1	sensitivity	out	00000001	10	9.500	12.787	1.5x1.5 0.0x0.0	41348	26000	1.59031	2017-06-19	11:35:01	
2	B4C	out	00000002	10	10.000	12.787	1.5x1.5 0.0x0.0	41348	20000	2.0674	2017-06-19	11:35:01	
3	H-M	out	00082557	10	9.200	12.787	2.0x2.0 20.0x20.0	4.95806e+06	2000	2479.03	2020-03-15	14:29:50	
4	EB	out	00082558	10	9.200	12.787	2.0x2.0 20.0x20.0	3.4473e+06	1200	2872.75	2020-03-15	15:03:54	
5	H-J	out	00082559	10	9.200	12.787	2.0x2.0 20.0x20.0	4.95999e+06	2000	2479.99	2020-03-15	15:24:45	
6	H-L	out	00082561	10	9.200	12.787	2.0x2.0 20.0x20.0	5.83888e+06	2369.72	2463.95	2020-03-15	16:39:50	
7	EB	out	00082645	10	1.200	12.787	2.0x2.0 6.5x8.0	1.66938e+07	3600	4637.17	2020-03-15	18:47:23	
8	H-J	out	00082646	10	1.200	12.787	2.0x2.0 6.5x8.0	1.44244e+07	3600	4006.78	2020-03-15	19:48:09	
9	H-L	out	00082647	10	1.200	12.787	2.0x2.0 6.5x8.0	1.42507e+07	3600	3958.53	2020-03-15	20:48:35	
10	H-M	out	00082648	10	1.200	12.787	2.0x2.0 6.5x8.0	1.44525e+07	3600	4014.58	2020-03-15	21:48:58	

D9.2m

D1.2m

EB (Empty cell/beam) to subtract from sample's runs

Absolute calibration of KWS-3 data is done in direct way: we measure empty beam without beam stop and calculate number of neutrons coming to samples

	Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date	Time	F
1	sensitivity	out	00000001	10	9.500	12.787	1.5x1.5 0.0x0.0	41348	26000	1.59031	2017-06-19	11:35:01	
2	B4C	out	00000002	10	10.000	12.787	1.5x1.5 0.0x0.0	41348	20000	2.0674	2017-06-19	11:35:01	
3	H-M	out	00082557	10	9.200	12.787	2.0x2.0 20.0x20.0	4.95806e+06	2000	2479.03	2020-03-15	14:29:50	
4	EB	out	00082558	10	9.200	12.787	2.0x2.0 20.0x20.0	3.4473e+06	1200	2871.75	2020-03-15	15:03:54	
5	H-J	out	00082559	10	9.200	12.787	2.0x2.0 20.0x20.0	4.95999e+06	2000	2479.99	2020-03-15	15:24:45	
6	H-L	out	00082561	10	9.200	12.787	2.0x2.0 20.0x20.0	5.83888e+06	2369.72	2463.95	2020-03-15	16:39:50	
7	EB	out	00082645	10	1.200	12.787	2.0x2.0 6.5x8.0	1.66938e+07	3600	4637.17	2020-03-15	18:47:23	
8	H-J	out	00082646	10	1.200	12.787	2.0x2.0 6.5x8.0	1.44244e+07	3600	4006.78	2020-03-15	19:48:09	
9	H-L	out	00082647	10	1.200	12.787	2.0x2.0 6.5x8.0	1.42507e+07	3600	3958.53	2020-03-15	20:48:35	
10	H-M	out	00082648	10	1.200	12.787	2.0x2.0 6.5x8.0	1.44525e+07	3600	4014.58	2020-03-15	21:48:58	

D9.2m

D1.2m

Absolute Calibration Runs (direct beam mode):

- EB ("Empty Beam")
- B4C ("Dark Current")

STEP 5: Masking Matrixes

For Sensitivity, Absolute Calibration, and Detector Center calculation we need “full” mask (only detector edge is masked):

mask

We have two configurations: D9.2m and D1.2m.

For every configuration we need 2 masks:

- For radial averaging (detector edge and direct beam are masked):
- For Transmission Calculation (masked everything except director beam area):

mask-bs-9m & mask-bs-1m
mask-tr-9m & mask-tr-1m

STEP 5.1: Standard Detector “**mask**” Creation

Go to MASK tab

info-table - Info::Table

	Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date
1	sensitivity	out	00000001	10	9.500	12.787	1.5x1.5i0.0x0.0	41348	26000	1.59031	2017-06-19
2	B4C	out	00000002	10	10.000	12.787	1.5x1.5i0.0x0.0	41348	20000	2.0674	2017-06-19
3	H-M	out	00082557	10	9.200	12.787	2.0x2.0i20.0x20.0	4.95806e+06	2000	2479.03	2020-03-15
4	EB	out	00082558	10	9.200	12.787	2.0x2.0i20.0x20.0	3.4473e+06	1200	2872.75	2020-03-15
5	H-J	out	00082559	10	9.200	12.787	2.0x2.0i20.0x20.0	4.95999e+06	2000	2479.99	2020-03-15
6	H-L	out	00082561	10	9.200	12.787	2.0x2.0i20.0x20.0	5.83888e+06	2369.72	2463.95	2020-03-15
7	EB	out	00082645	10	1.200	12.787	2.0x2.0i6.5x8.0	1.66938e+07	3600	4637.17	2020-03-15
8	H-J	out	00082646	10	1.200	12.787	2.0x2.0i6.5x8.0	1.44244e+07	3600	4006.78	2020-03-15
9	H-L	out	00082647	10	1.200	12.787	2.0x2.0i6.5x8.0	1.42507e+07	3600	3958.53	2020-03-15
10	H-M	out	00082648	10	1.200	12.787	2.0x2.0i6.5x8.0	1.44525e+07	3600	4014.58	2020-03-15

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData Processing

Select Active Area of Detector

Active Mask-Matrix :: GenerateOpenSelect

maskUpdate... as TrNew

Edge

X2Y3Left-Bottom254255Right-Top

Ellipse :: Shape of Edge

Beam-Stop | Direct-Beam

X123Y123Left-Bottom133133Right-Top

Ellipse :: Shape of Beam-Stop

"Dead" rows"Dead" colsTriangular mask(s)

Mask | Tools

DAN

Project Explorer

UNTITLED

DAN :: script, info, ...

Name	Type	View	Created	Label
info-table	Table	Maximized	12.03.21 02:18	Info::Table

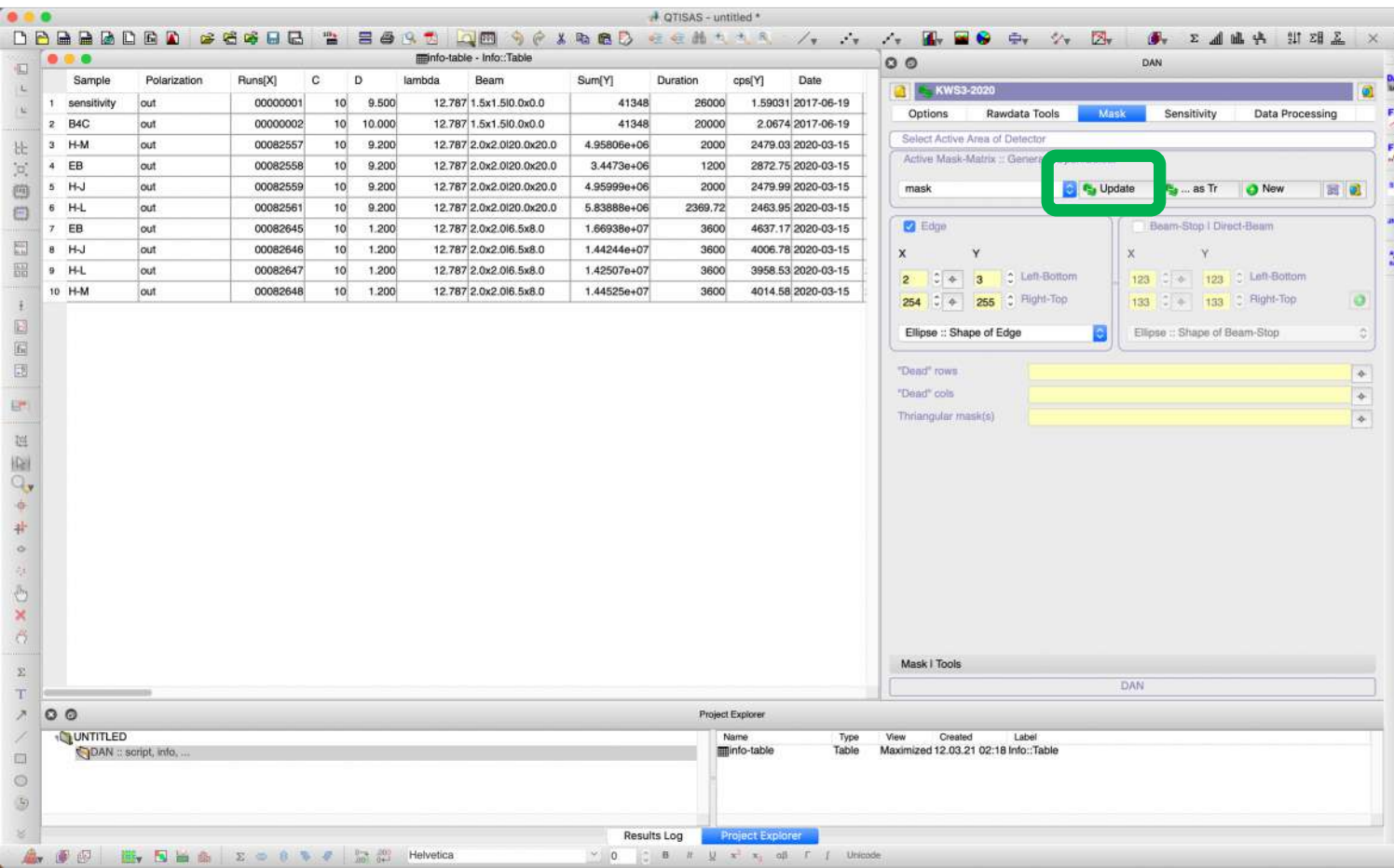
Results LogProject Explorer

Helvetica0B//Ux²x₂αβΓfUnicode

mask

For Sensitivity, Absolute Calibration, and Detector Center calculation we need “full” mask (only detector edge is masked)

Push :  Update



The screenshot shows the QTIAS software interface. On the left, a table displays experimental data. On the right, the 'Mask' configuration panel is visible, with the 'Update' button highlighted by a green box.

Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date
1 sensitivity	out	00000001	10	9.500	12.787	1.5x1.5l0.0x0.0	41348	26000	1.59031	2017-06-19
2 B4C	out	00000002	10	10.000	12.787	1.5x1.5l0.0x0.0	41348	20000	2.0674	2017-06-19
3 H-M	out	00082557	10	9.200	12.787	2.0x2.0l20.0x20.0	4.95806e+06	2000	2479.03	2020-03-15
4 EB	out	00082558	10	9.200	12.787	2.0x2.0l20.0x20.0	3.4473e+06	1200	2872.75	2020-03-15
5 H-J	out	00082559	10	9.200	12.787	2.0x2.0l20.0x20.0	4.95999e+06	2000	2479.99	2020-03-15
6 H-L	out	00082561	10	9.200	12.787	2.0x2.0l20.0x20.0	5.83888e+06	2369.72	2463.95	2020-03-15
7 EB	out	00082645	10	1.200	12.787	2.0x2.0l6.5x8.0	1.66938e+07	3600	4637.17	2020-03-15
8 H-J	out	00082646	10	1.200	12.787	2.0x2.0l6.5x8.0	1.44244e+07	3600	4006.78	2020-03-15
9 H-L	out	00082647	10	1.200	12.787	2.0x2.0l6.5x8.0	1.42507e+07	3600	3958.53	2020-03-15
10 H-M	out	00082648	10	1.200	12.787	2.0x2.0l6.5x8.0	1.44525e+07	3600	4014.58	2020-03-15

The 'Mask' configuration panel on the right includes the following settings:

- Options: Rawdata Tools, Mask (selected), Sensitivity, Data Processing
- Select Active Area of Detector: Active Mask-Matrix :: General
- mask: [Update button highlighted]
- Edge: ☒ (checked)
- Beam-Stop | Direct-Beam: ☐ (unchecked)
- Left-Bottom: X=2, Y=3
- Right-Top: X=254, Y=255
- Left-Bottom: X=123, Y=123
- Right-Top: X=133, Y=133
- Ellipse :: Shape of Edge: [dropdown menu]
- Ellipse :: Shape of Beam-Stop: [dropdown menu]
- "Dead" rows: [input field]
- "Dead" cols: [input field]
- Triangular mask(s): [input field]

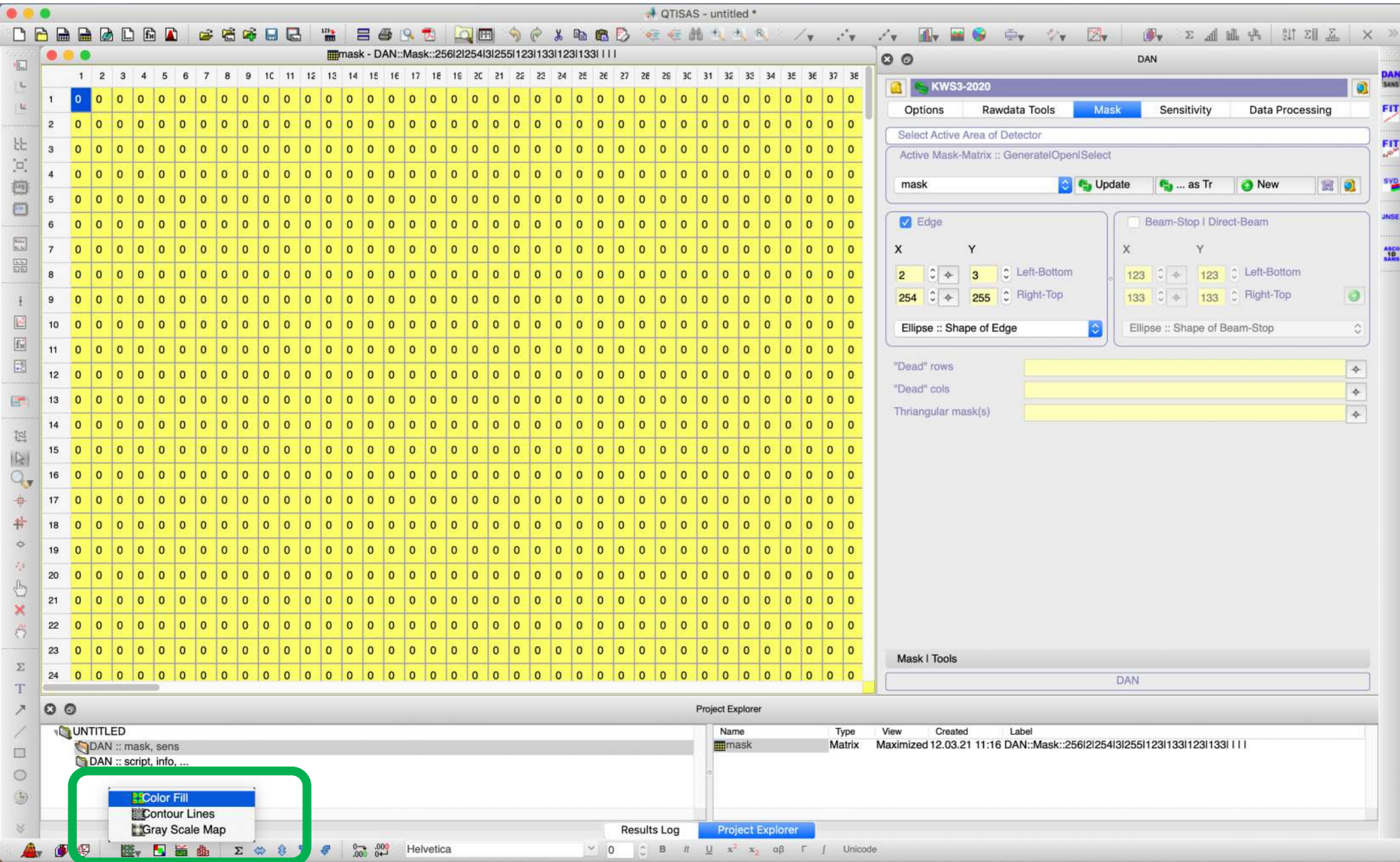
“Edge” is checked (default values)
“Beam Stop | Direct Beam” is unchecked
Active Mask Name is “mask”

“mask” matrix is created in “DAN:: mask, sens” folder

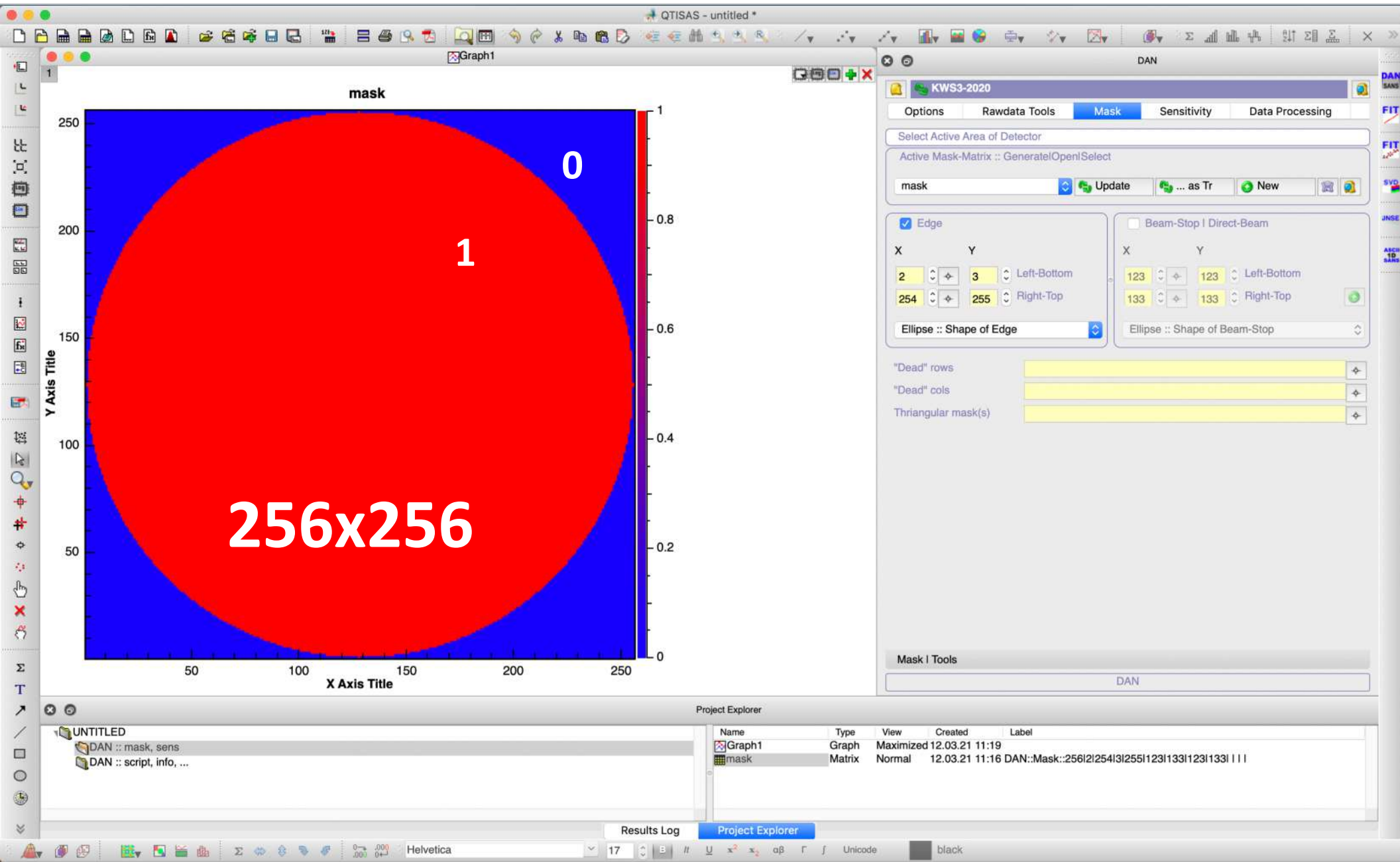
The screenshot displays the QTISAS software interface. The main window is titled "mask - DAN::Mask::256i2i254i3i255i123i133i123i133i111". It features a large grid representing a mask matrix, with rows numbered 1 to 24 and columns numbered 1 to 36. The grid cells are colored yellow, indicating a specific mask configuration. To the right of the grid is the "DAN" configuration panel, which includes tabs for "Options", "Rawdata Tools", "Mask", "Sensitivity", and "Data Processing". The "Mask" tab is active, showing settings for "Select Active Area of Detector", "Active Mask-Matrix :: GeneratelOpenlSelect", and "mask". Below these are sections for "Edge" and "Beam-Stop I Direct-Beam" configurations, including X and Y coordinates and "Left-Bottom" and "Right-Top" settings. At the bottom of the interface is the "Project Explorer" panel, which lists the project files. Two items are highlighted with green boxes: "UNTITLED" and "DAN :: mask, sens". The "Project Explorer" panel also shows a table with columns "Name", "Type", "View", "Created", and "Label". The table contains one entry: "mask" (Type: Matrix, View: Maximized, Created: 12.03.21 11:16, Label: DAN::Mask::256i2i254i3i255i123i133i123i133i111).

Name	Type	View	Created	Label
mask	Matrix	Maximized	12.03.21 11:16	DAN::Mask::256i2i254i3i255i123i133i123i133i111

Plotting Example: "Color Fill"



Plotting Example: "Color Fill"

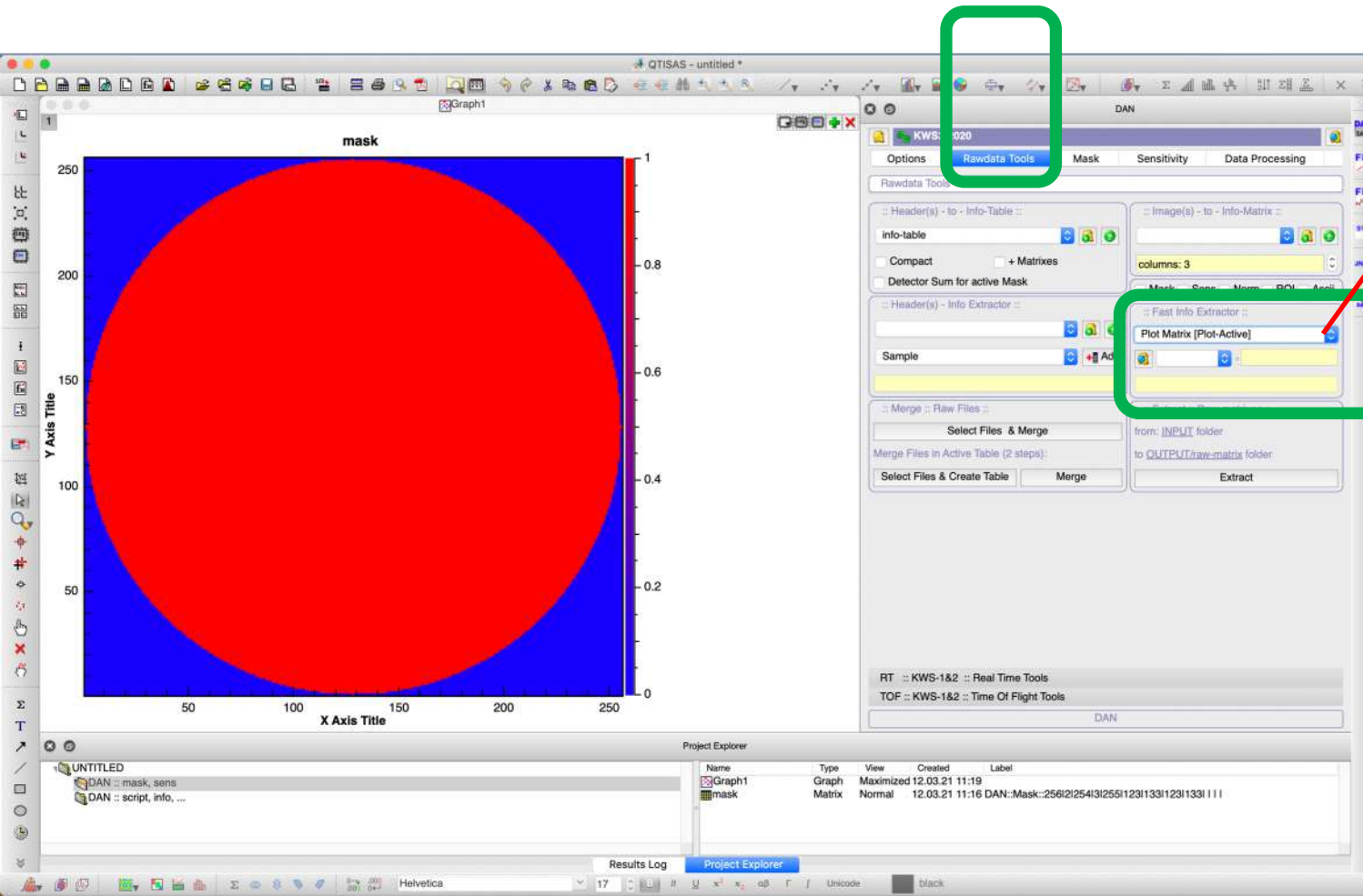


STEP 5.2: “mask-bs-9m” generation

Beam center could be located at any position of the detector, sometimes even out of the detector area. Therefore position of the direct beam is not pre-defined. Every time we should calculate position of the beam spot basing on Empty Beam run for every configuration. To make “mask-bs-9m” matrix we will open “00082558” matrix and will plot it.

4	EB	out	00082558	10	9.200	12.787	2.0x2.0 20.0x20.0	3.4473e+06	1200	2872.75	2020-03-15	15:03:54	
---	----	-----	----------	----	-------	--------	-------------------	------------	------	---------	------------	----------	--

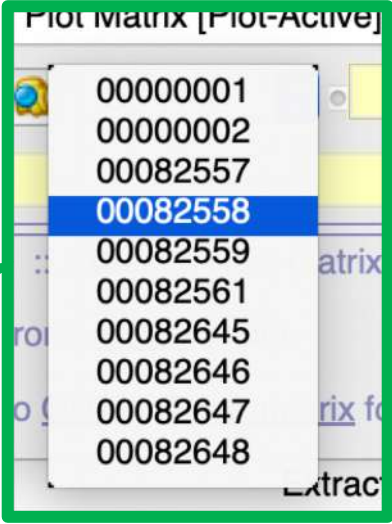
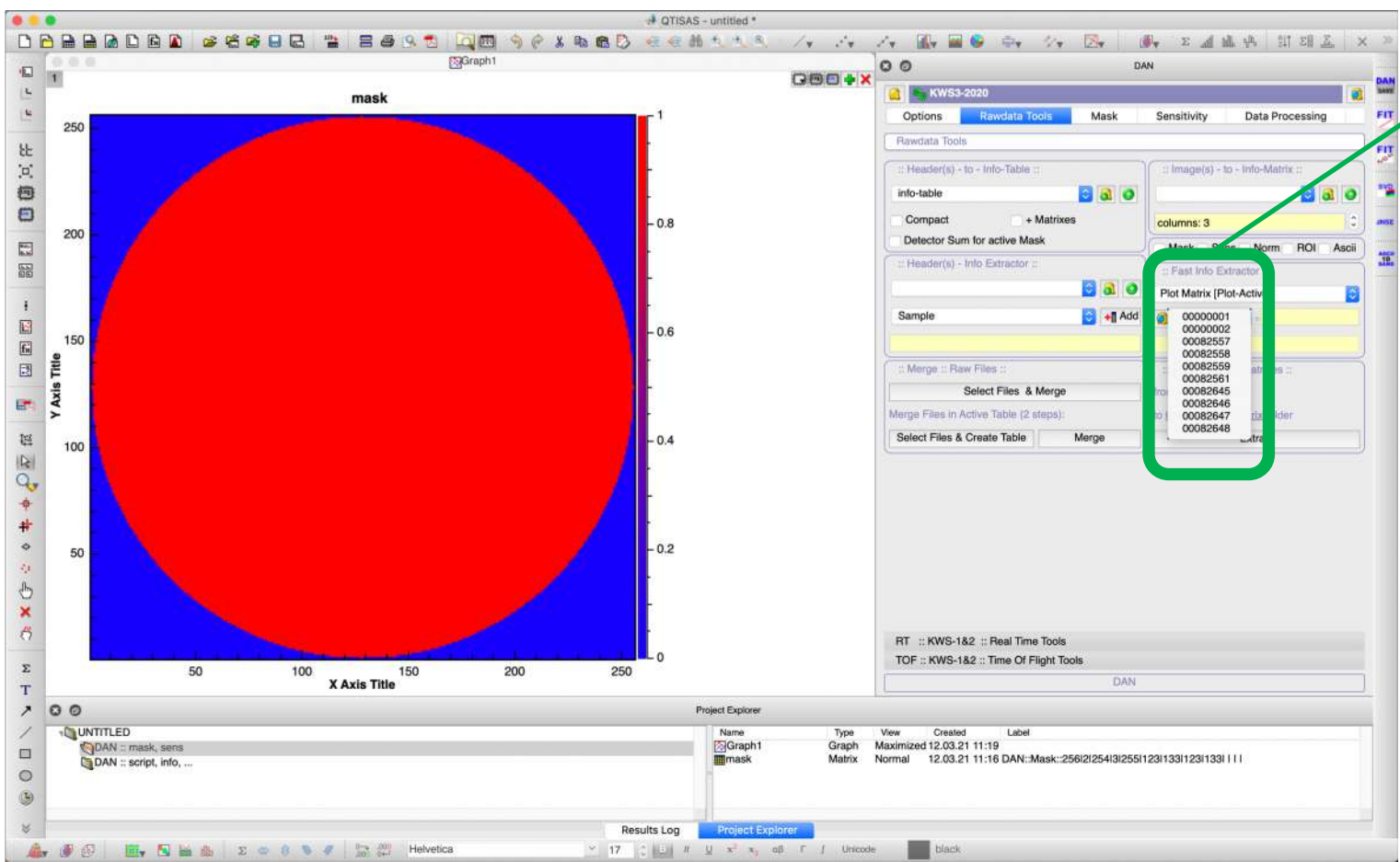
To plot rawdata-matrix of 00082558 run we will use
Fast Info Extractor of Rawdata Tools

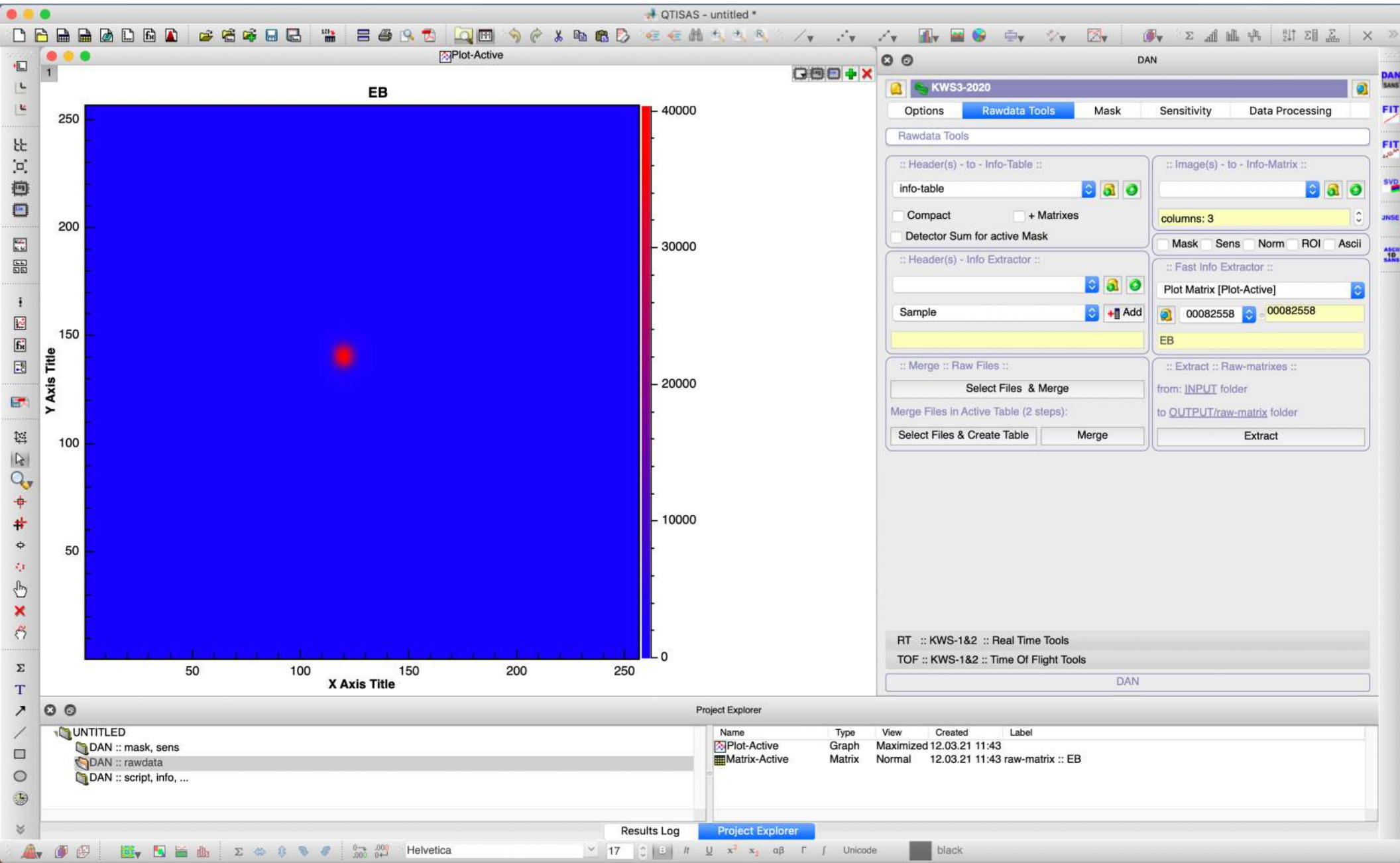


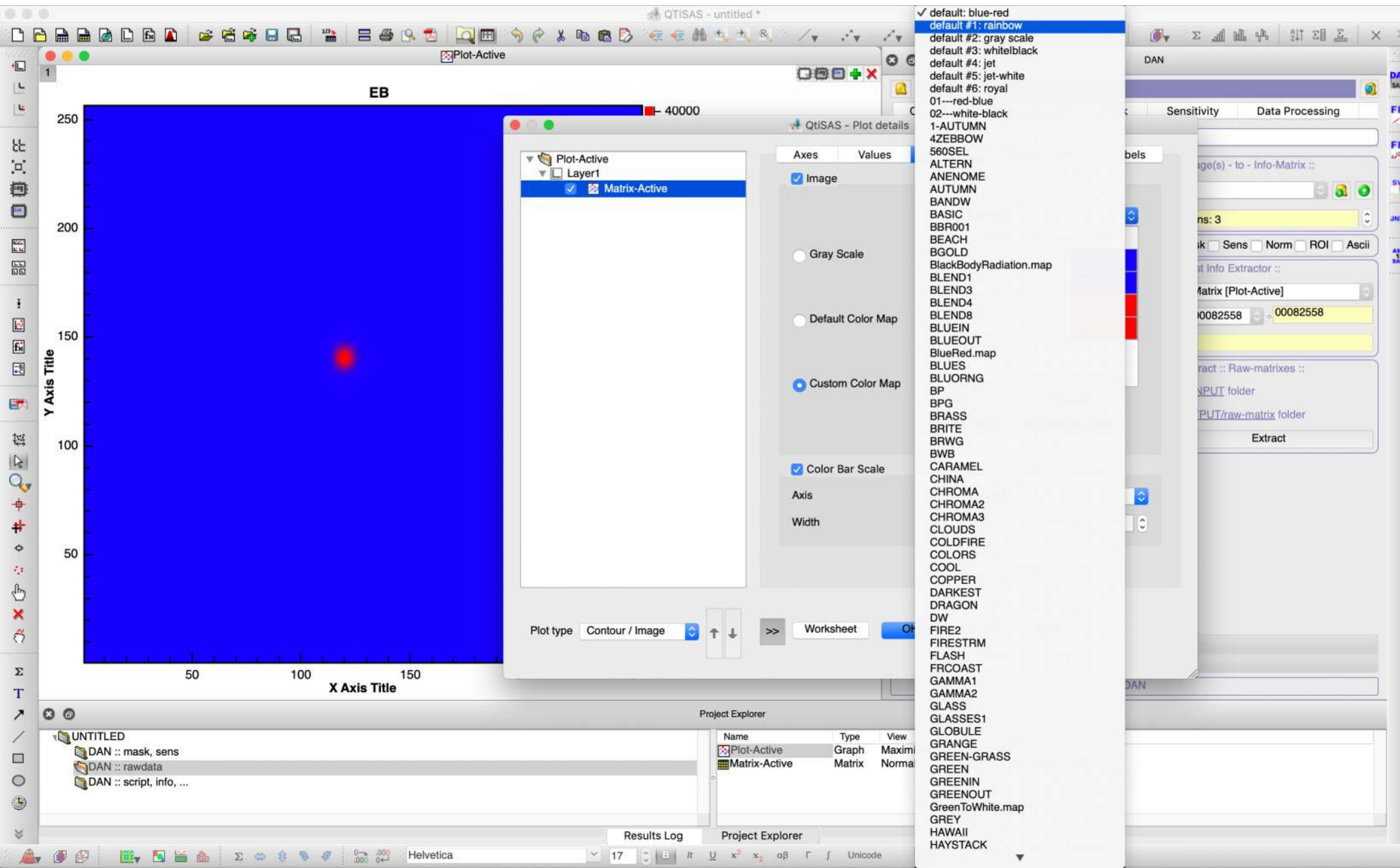
- View I(Q)
- View I(Q) [in raw-QI table]
- View Matrix
- View Matrix [Matrix-Active]
- ✓ Plot Matrix [Plot-Active]
- View Header
- Monitor-1
- Monitor-2
- Monitor-3
- Monitor-1 [cps]
- Monitor-2 [cps]
- Monitor-3 [cps]
- Duration[sec]
- Integral [cps]
- Integral-vs-Mask[cps]
- Dead-Time-Factor [1]
- C [cm]
- D [cm]
- f [Hz]
- Lambda
- R1 [cm]
- R2 [cm]
- Thickness [cm]
- SA
- CA
- [Info]
- RT-normalization
- Q2-vs-Mask

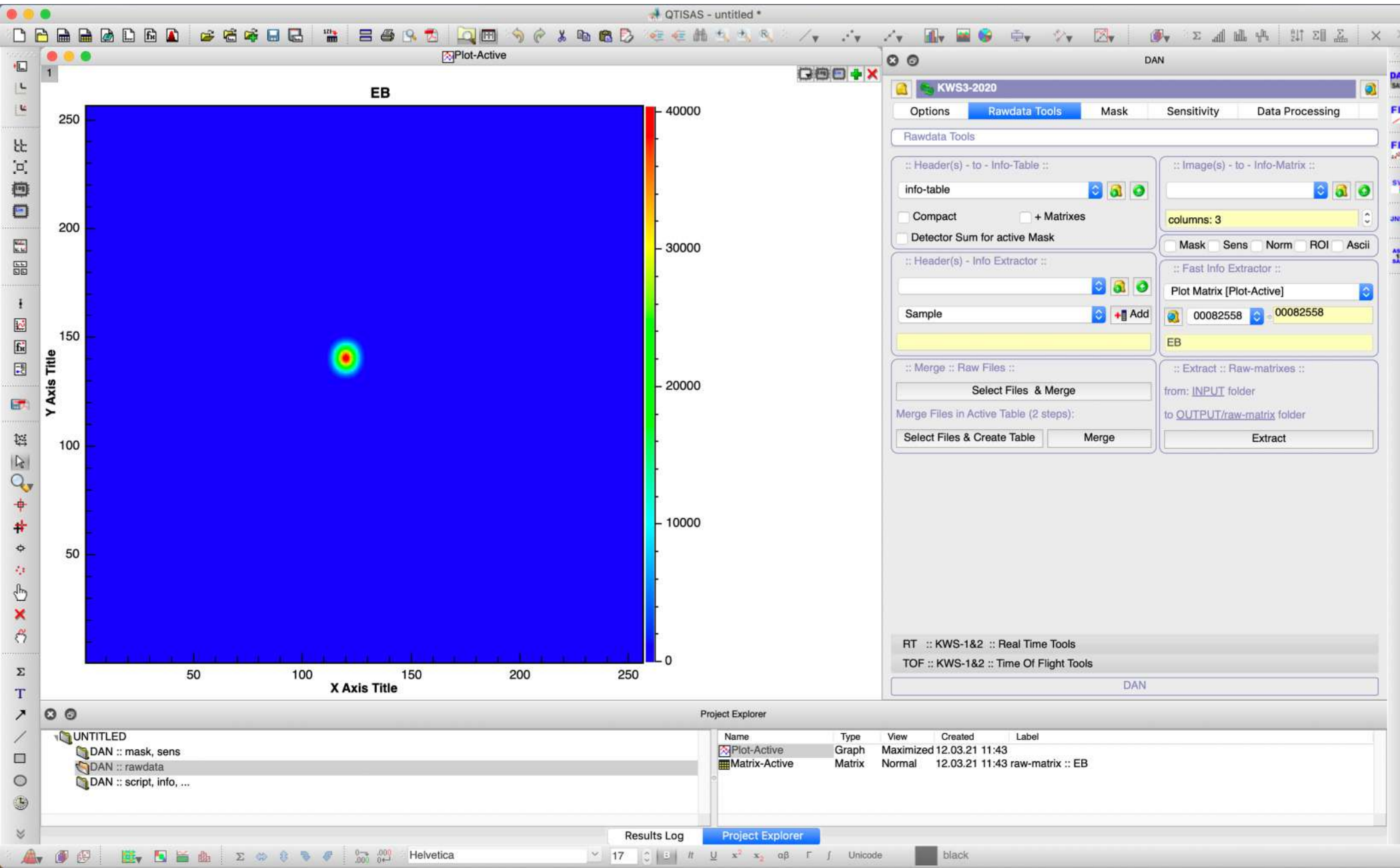
Be sure, that **Plot Matrix [Plot-Active]** is selected

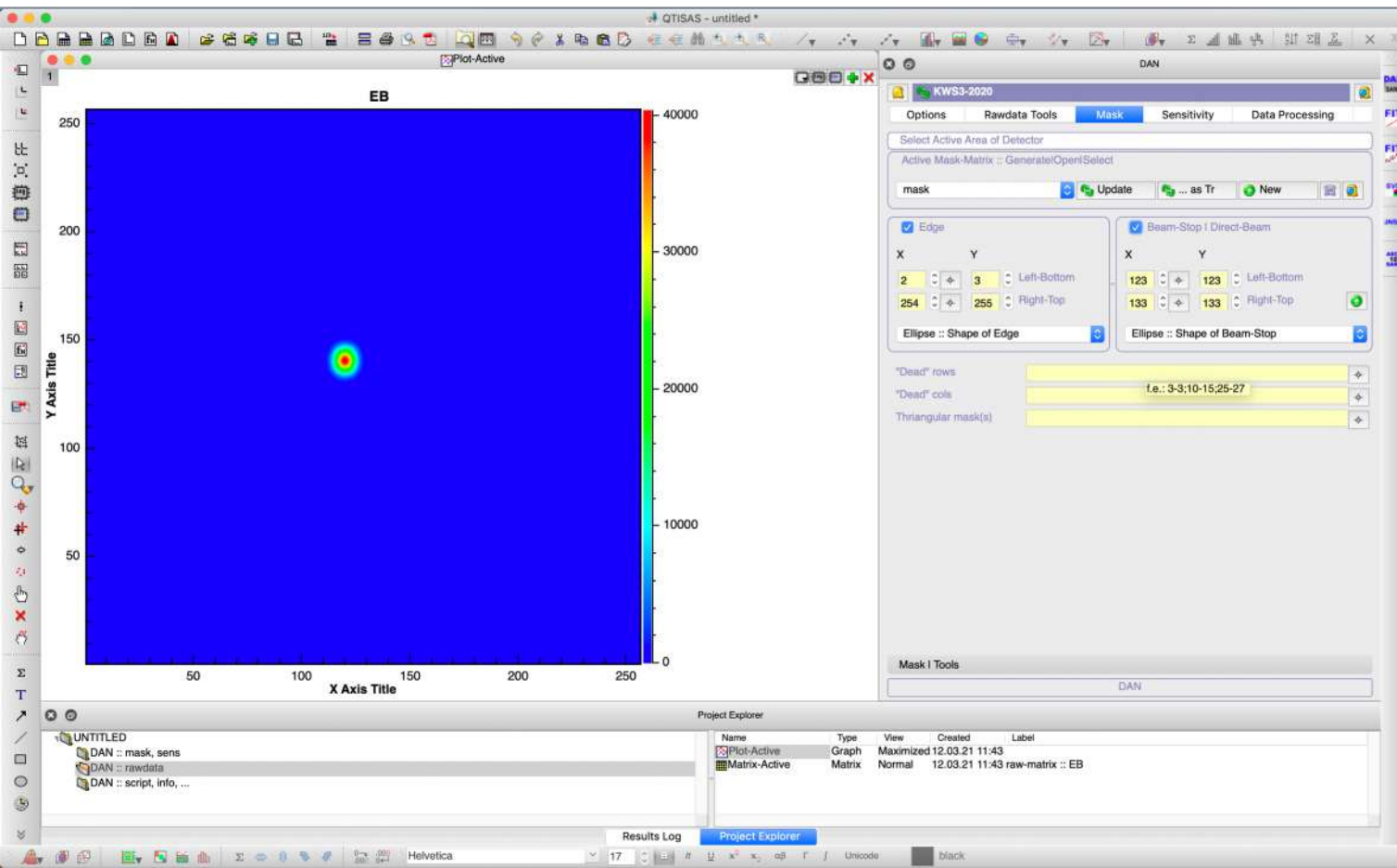
Select in the drop-down list **00082558** run







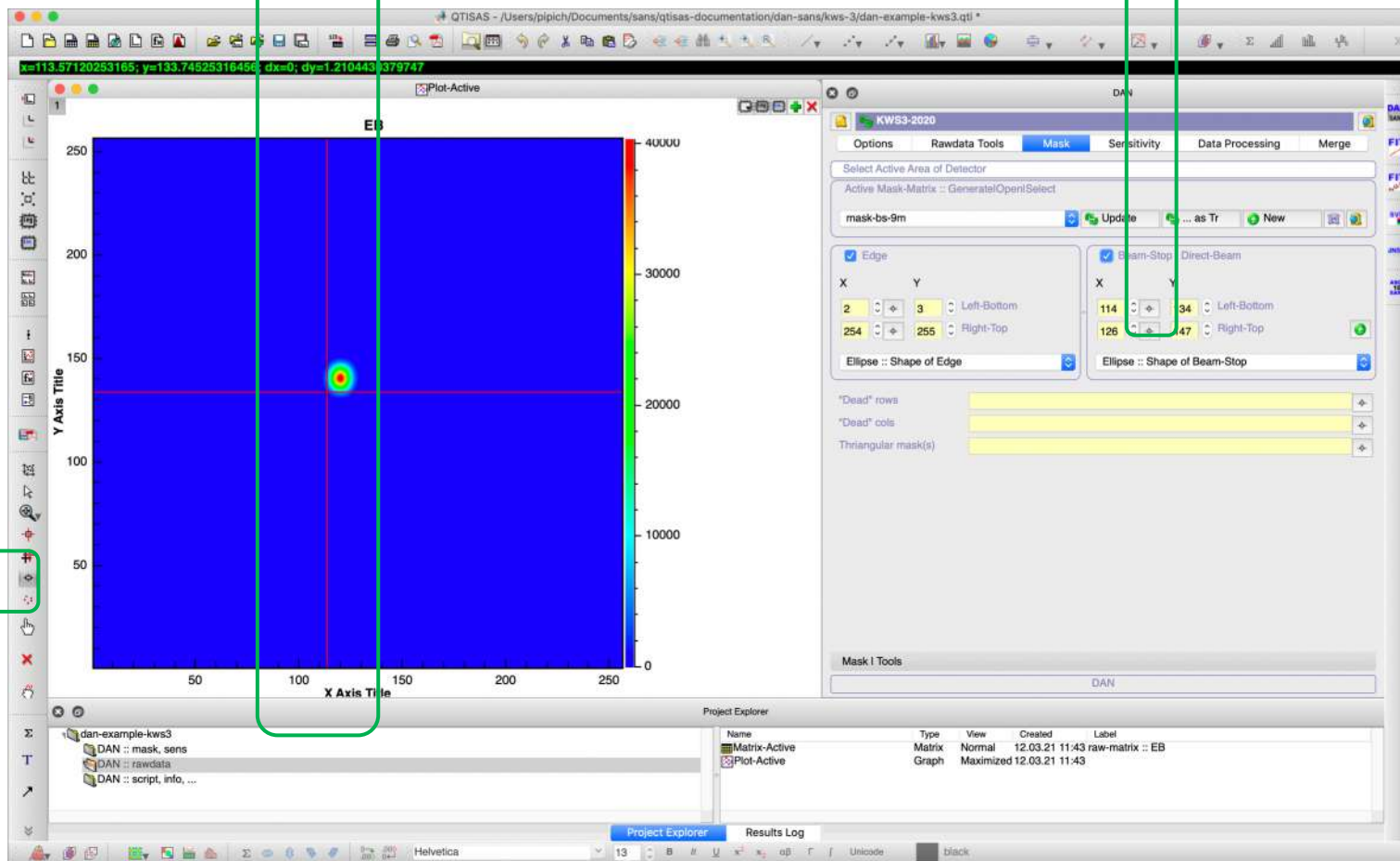


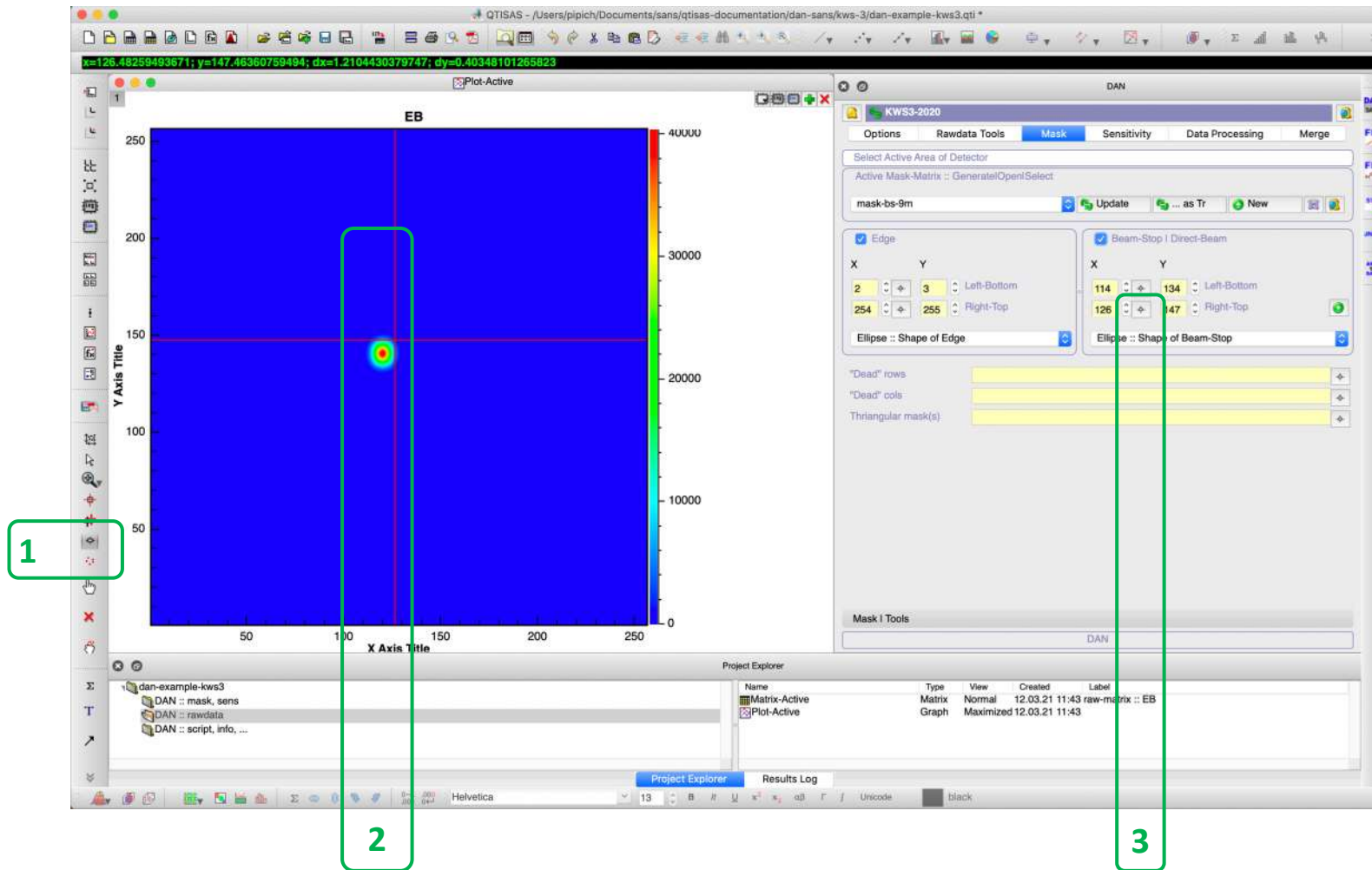


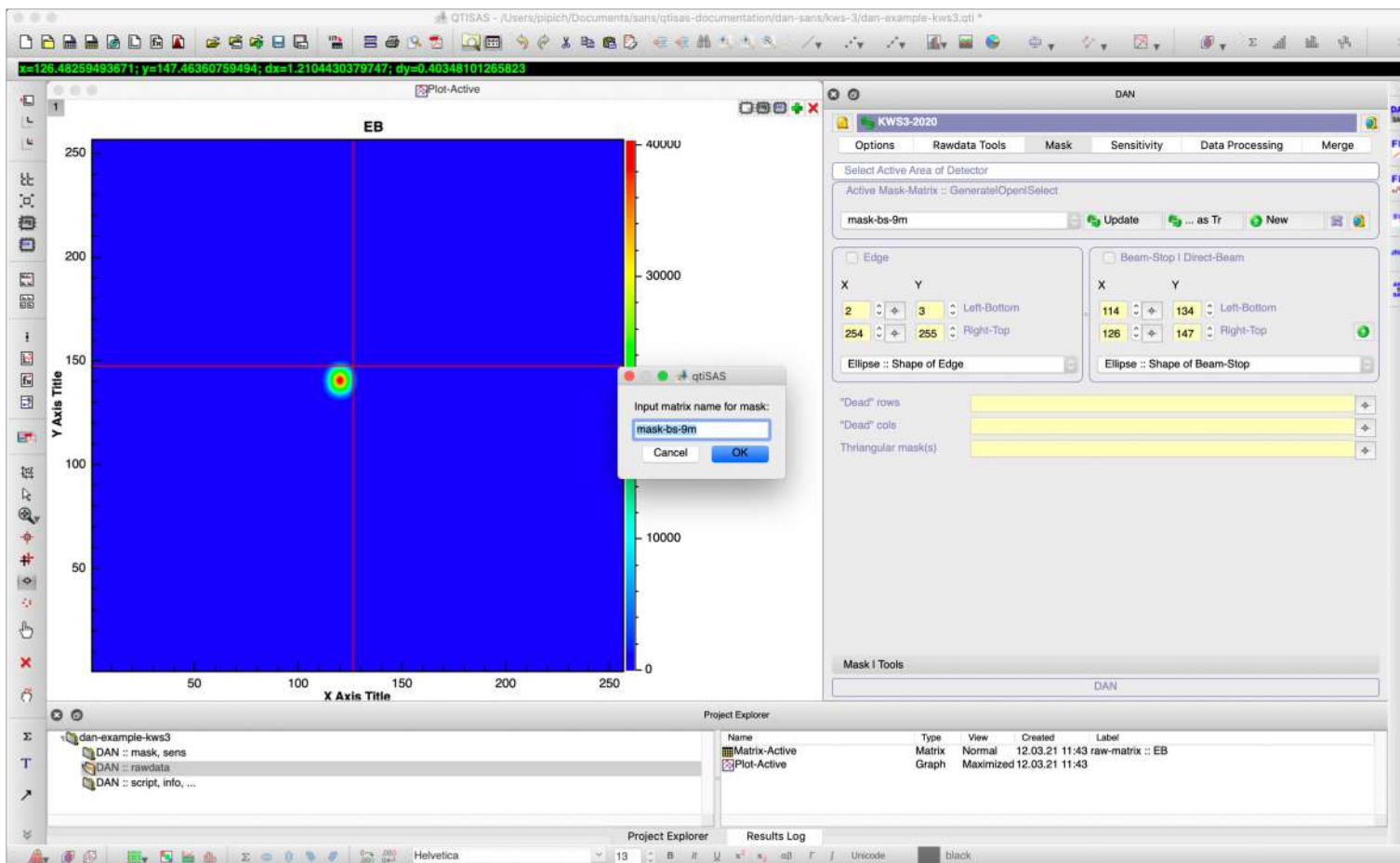
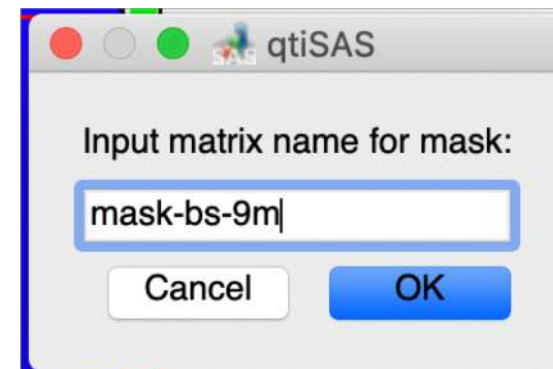
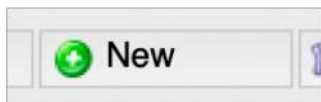
1

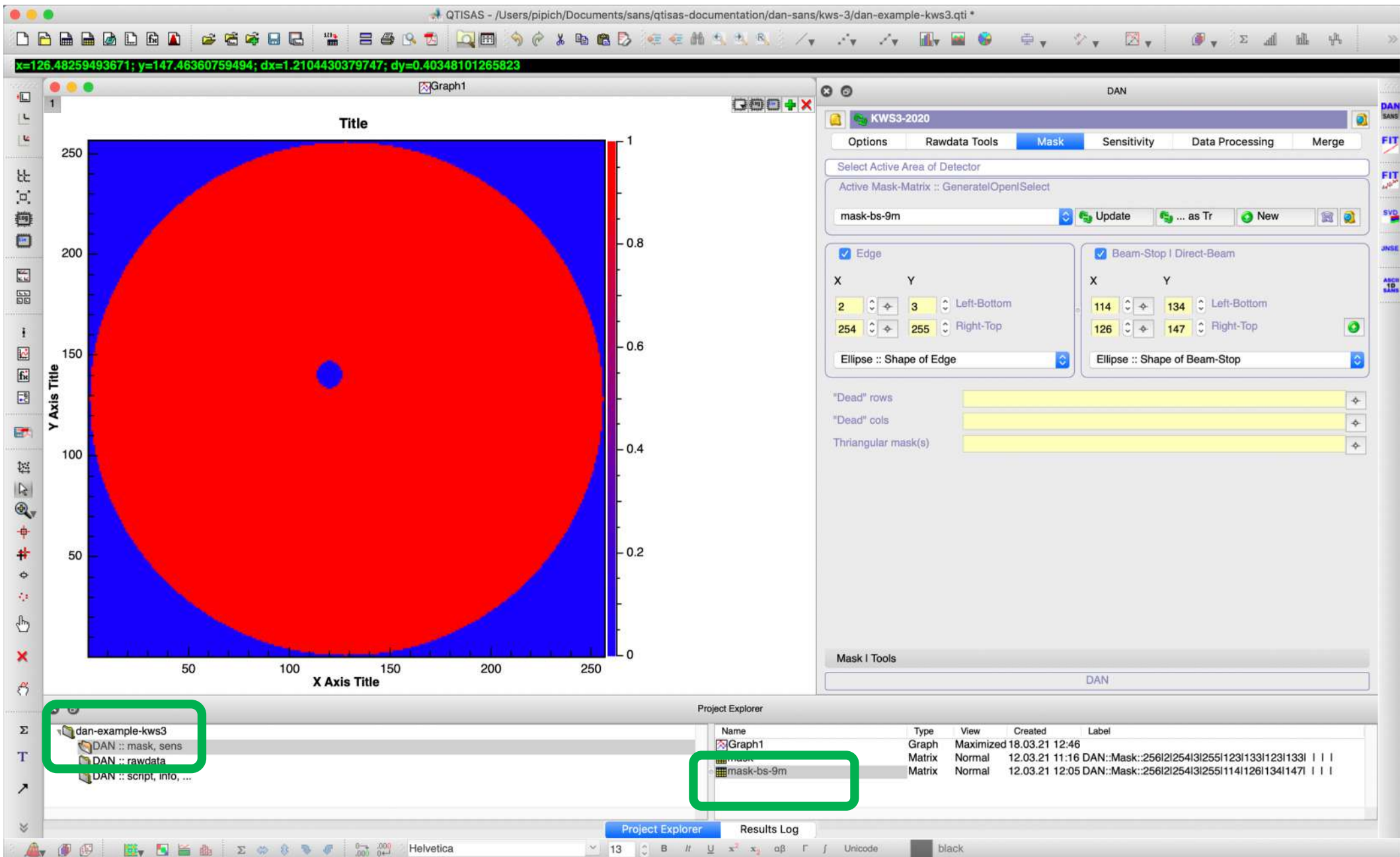
2

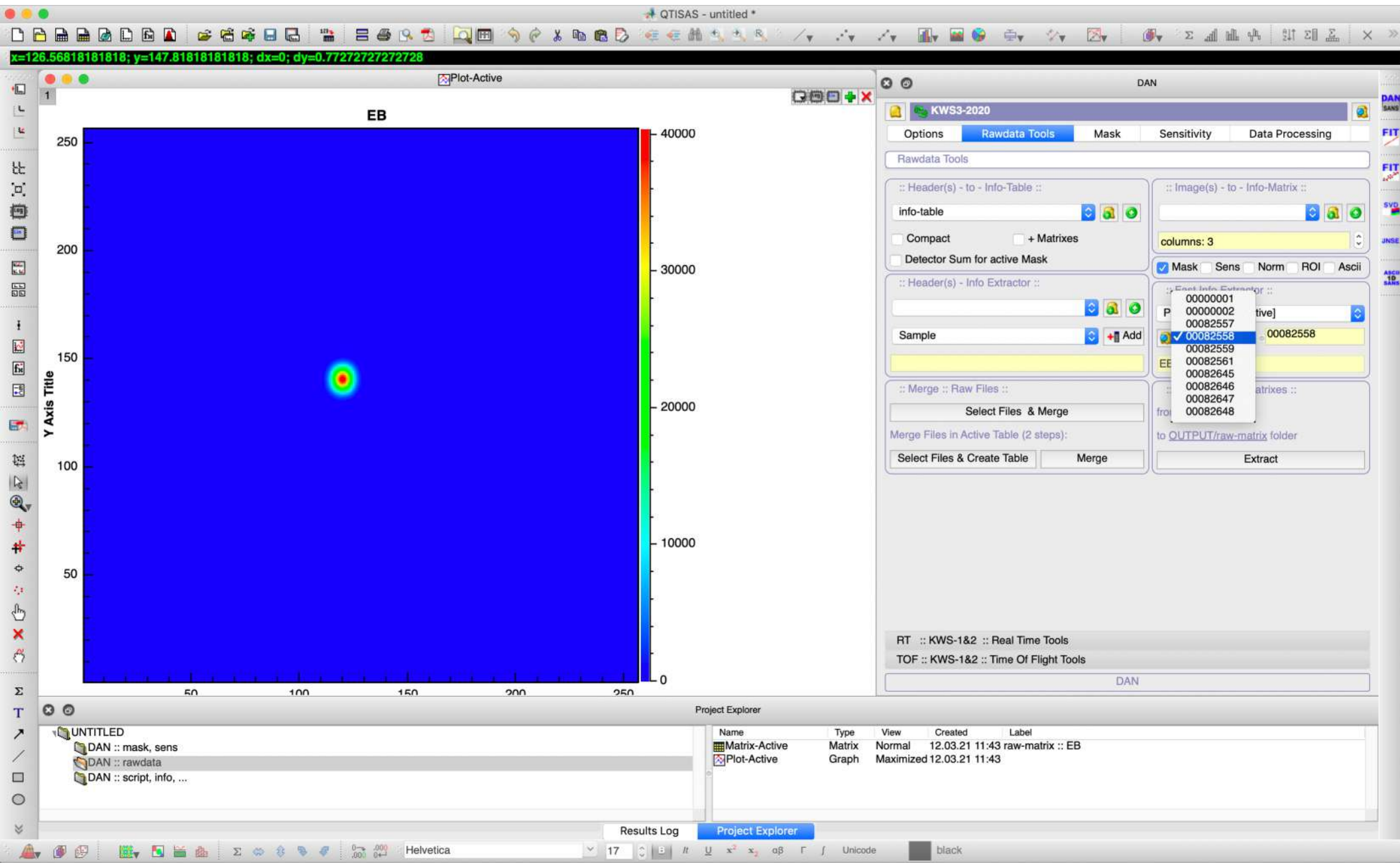
3

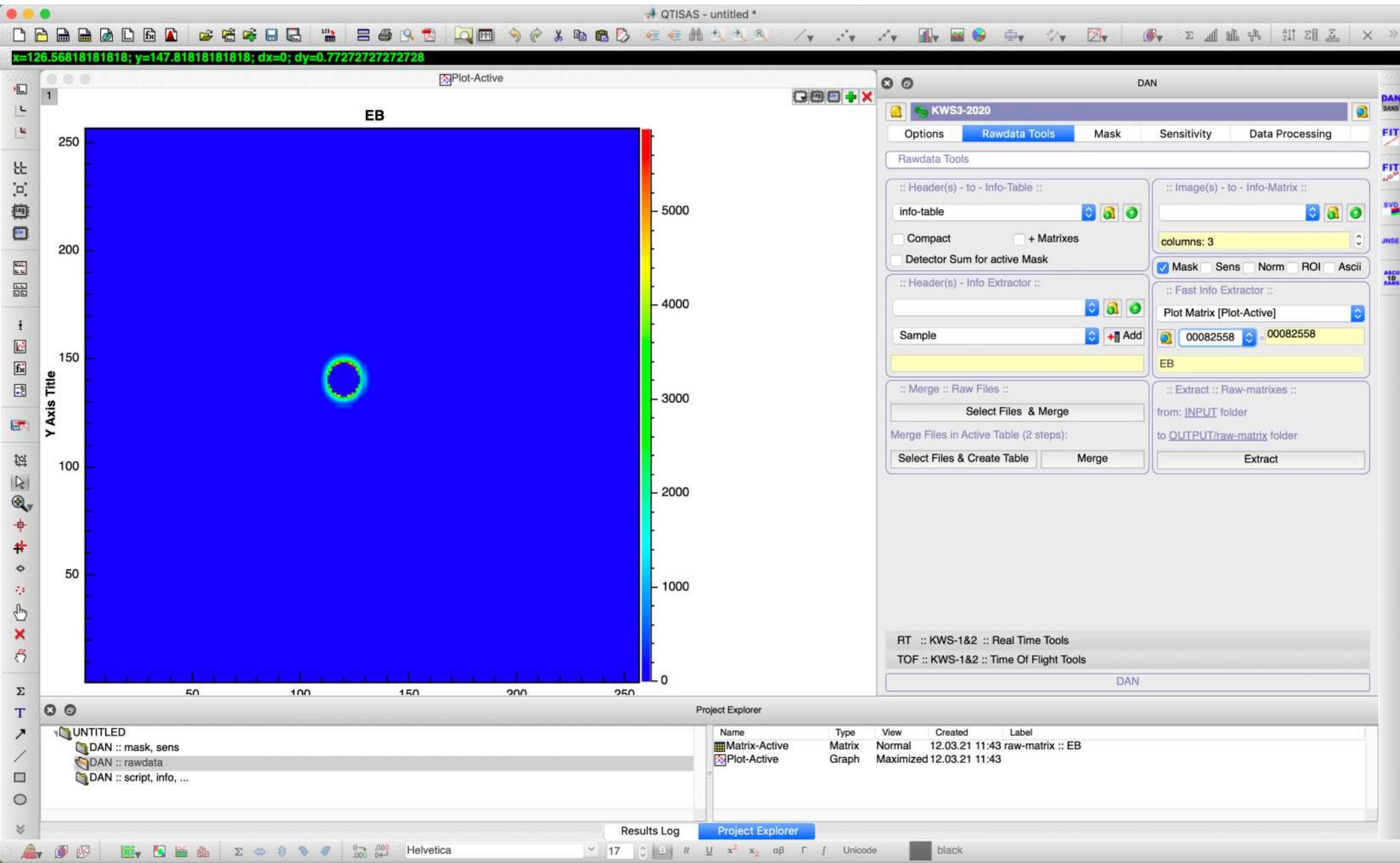




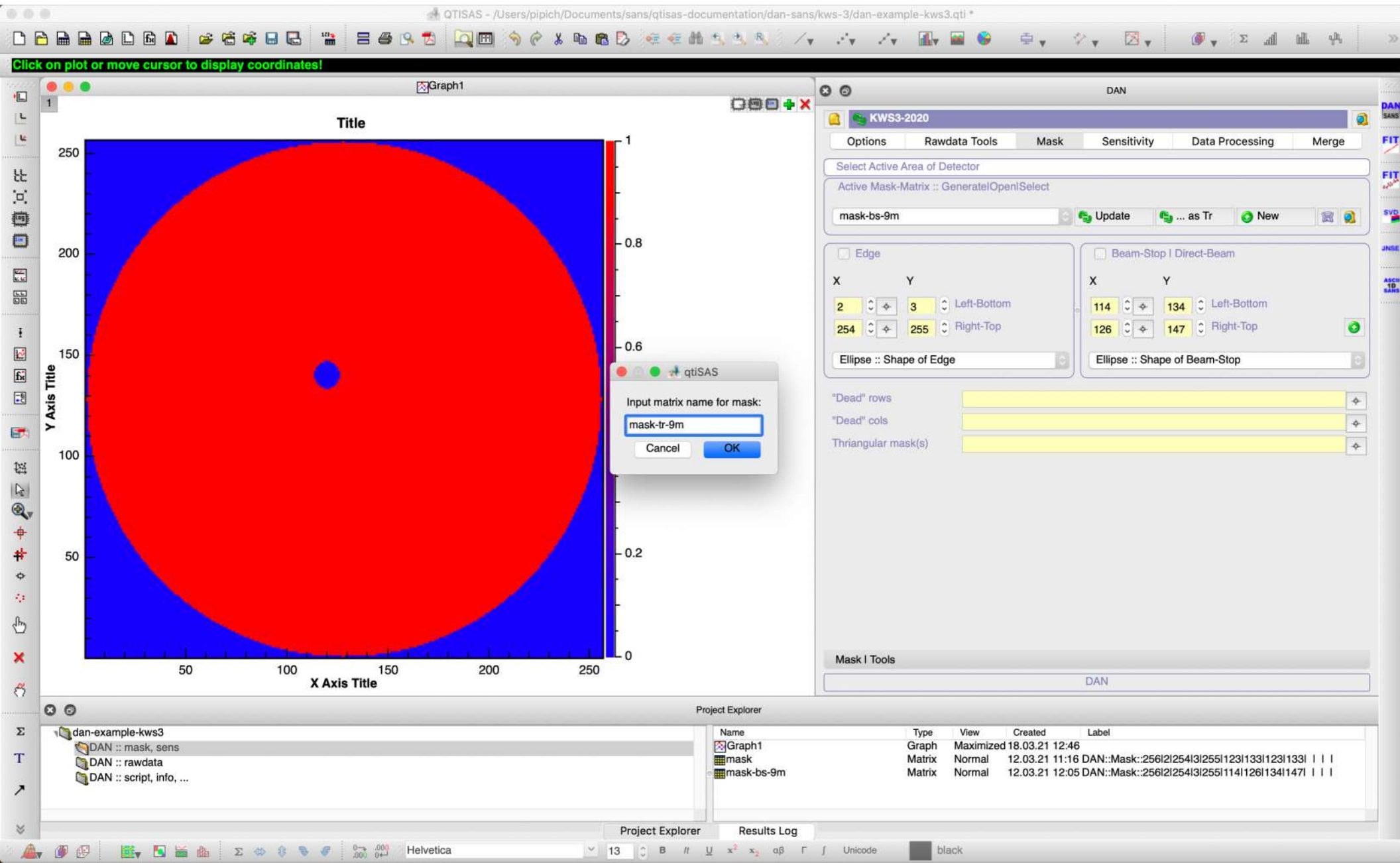








STEP 5.3: “mask-tr-9m” generation



☒ Beam-Stop | Direct-Beam

X

Y

114

134

Left-Bottom

126

147

Right-Top

☒ Beam-Stop | Direct-Beam

X

Y

117

137

Left-Bottom

123

144

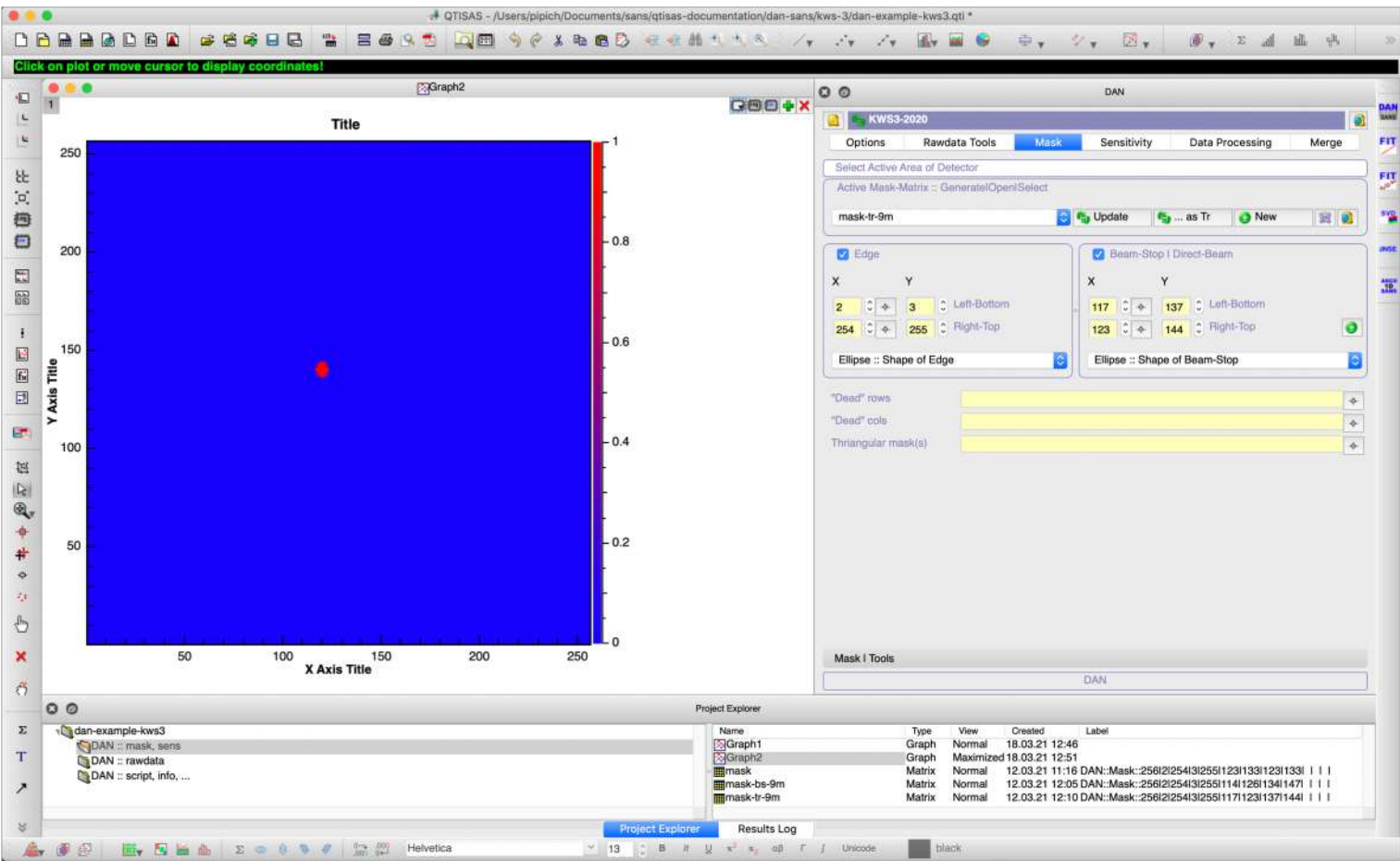
Right-Top

... as Tr

Color Fill

Contour Lines

Gray Scale Map



Axes

Values

Colors

Contour Lines

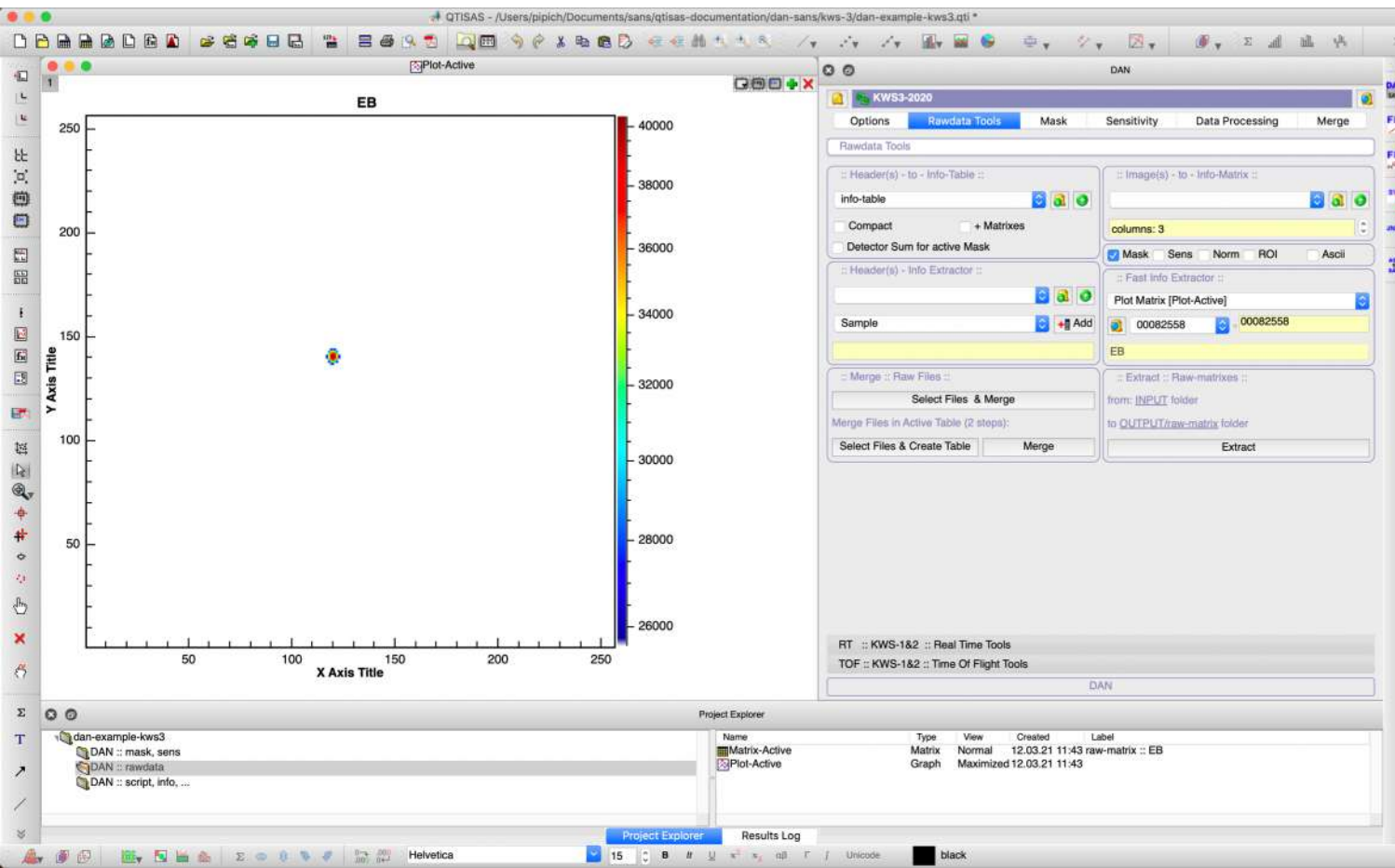
Labels

☒ Image

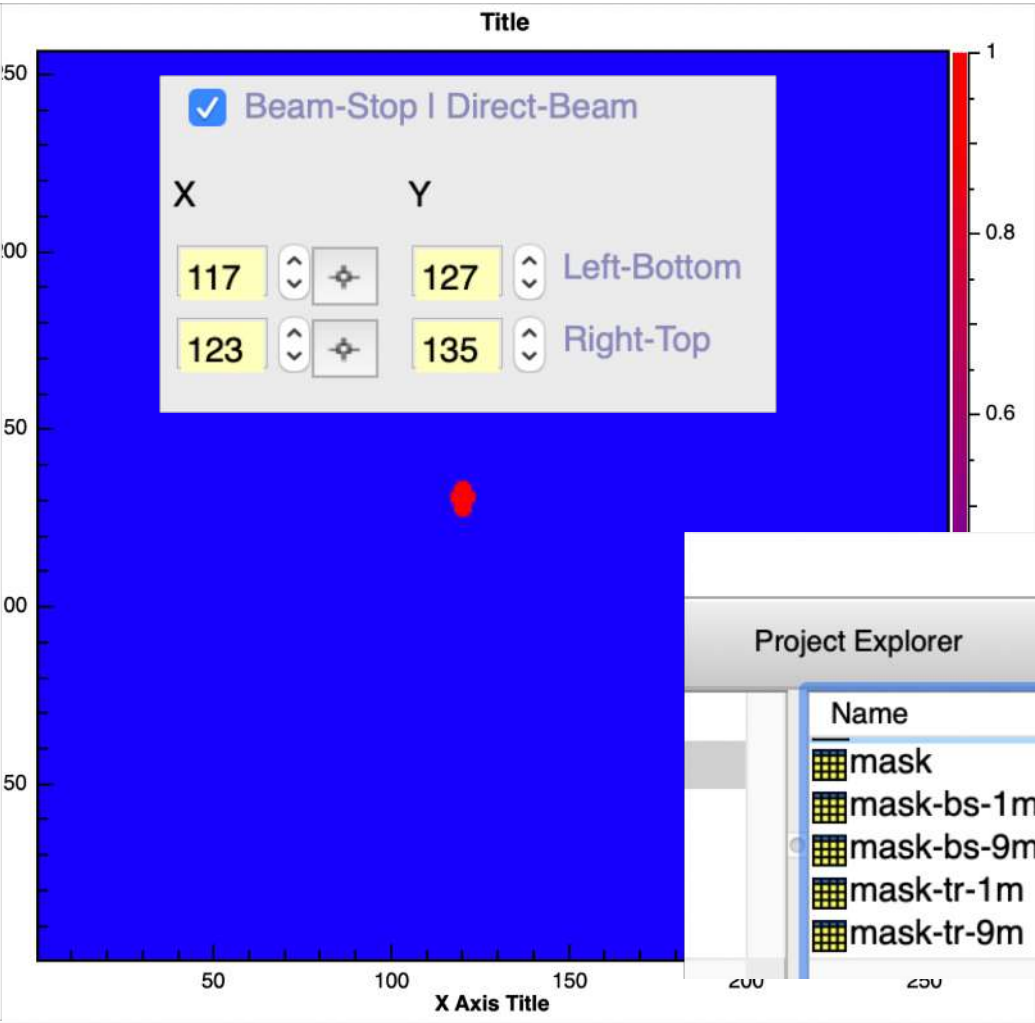
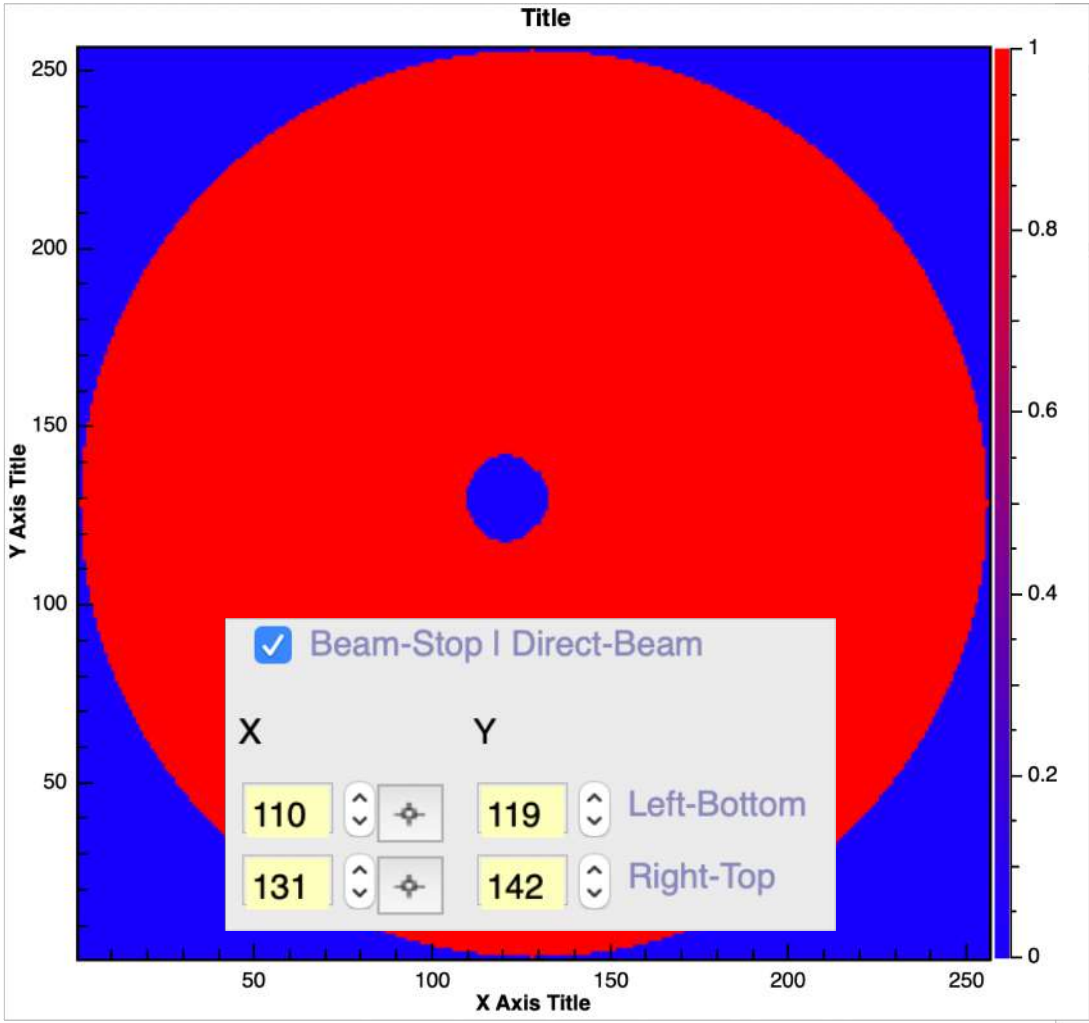
default #5: jet-white

Level	Color
<= 0	
25571	
25753 81751025	

☐ Gray Scale



STEP 5.4 & 5.5: “mask-tr-9m” generation



Project Explorer

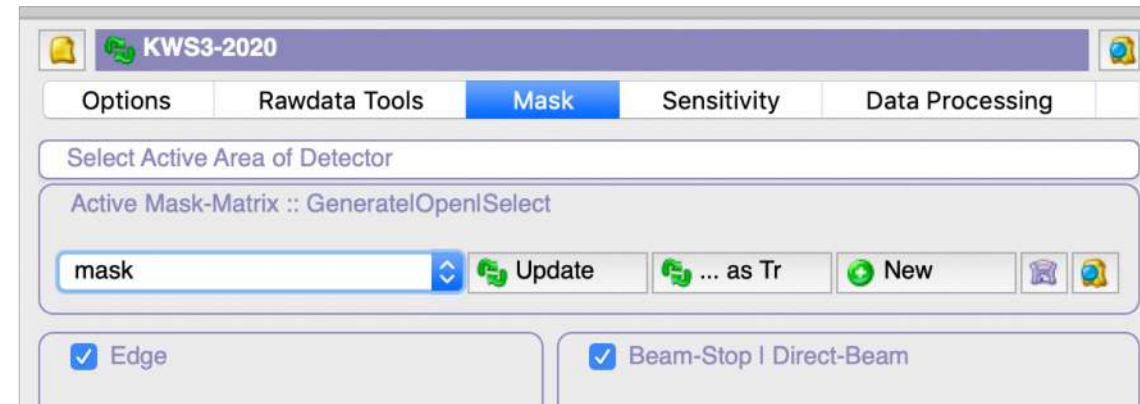
Name	Type	View
mask	Matrix	Normal
mask-bs-1m	Matrix	Normal
mask-bs-9m	Matrix	Normal
mask-tr-1m	Matrix	Normal
mask-tr-9m	Matrix	Normal

STEP 6: Detector Sensitivity (“Sens”) Reading

KWS-3 case: ask Local Contact to provide sensitivity files

In this example we use: **#000000001 run**

“mask” matrix should be active in Mask Tab



Go to Sensitivity tab & do 4 steps

QTISAS - untitled *

x=127.28955696203; y=138.1835443038; dx=0; dy=0

info-table - Info::Table

Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date
1 sensitivity	out	00000001	10	9.500	12.787	1.5x1.5 0.0x0.0	41348	26000	1.59031	2017-06-19
2 B4C	out	00000002	10	10.000	12.787	1.5x1.5 0.0x0.0	41348	20000	2.0674	2017-06-19
3 H-M	out	00082557	10	9.200	12.787	2.0x2.0 20.0x20.0	4.95806e+06	2000	2479.03	2020-03-15
4 EB										
5 H-J										
6 H-L										
7 EB										
8 H-J										
9 H-L										
10 H-M										

data

Search

3

2

1 Sensitivity

4 Update

Options Rawdata Tools Mask Sensitivity Data Processing

Calculation of Sensitivity-Matrixes

Active Sensitivity-Matrix :: Generate | Open | Select

sens

Update New

Input File Numbers and Transmission ...

Plexiglass [H2O, ...]

EB [EC]

B4C [Cd]

1.0000 Transmission

Sensitivity | Options

DAN

Project Explorer

UNTITLED

DAN :: mask, sens

DAN :: rawdata

DAN :: script, info, ...

Name Type View Created Label

info-table Table Maximized 12.03.21 02:18 Info::Table

Results Log

Project Explorer

Helvetica

17

Unicode

“sens” matrix is created in “DAN:: mask, sens” folder

The screenshot displays the QTISAS software interface. The main window shows a sensitivity matrix calculation for the project "KWS3-2020". The matrix is a 24x7 grid of values, all set to 0.0000000E+00. The right sidebar contains the "DAN" panel with tabs for Options, Rawdata Tools, Mask, Sensitivity, and Data Processing. The "Sensitivity" tab is active, showing the "Calculation of Sensitivity-Matrixes" section. Below this, the "Active Sensitivity-Matrix" is set to "sens". The "Input File Numbers and Transmission" section lists the following parameters:

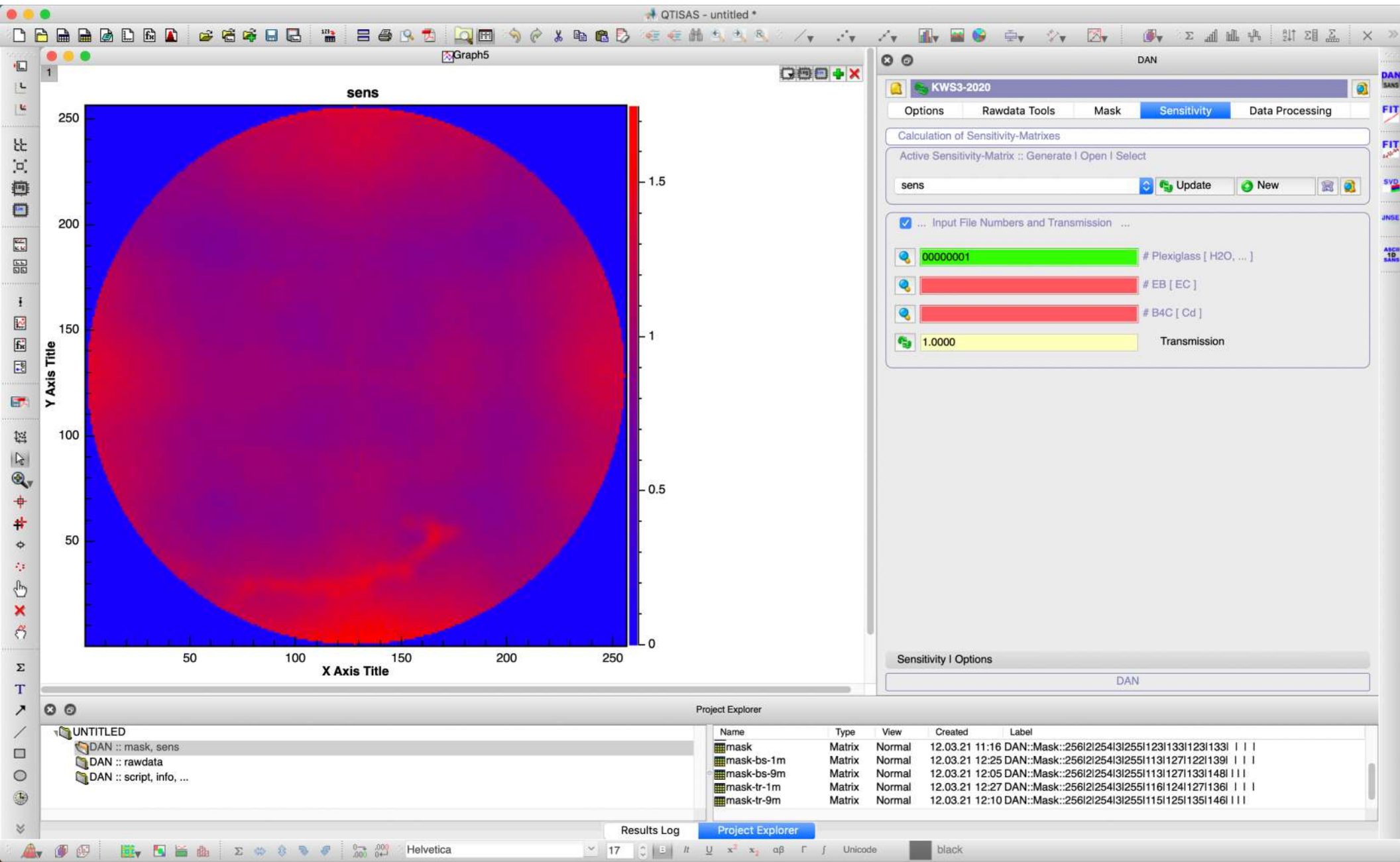
- # Plexiglass [H2O, ...]
- # EB [EC]
- # B4C [Cd]
- Transmission: 1.0000

The bottom of the interface features a "Project Explorer" panel. It lists the following items:

- UNTITLED
- DAN :: mask, sens
- DAN :: rawdata
- DAN :: script, info, ...

The "Sens" matrix is highlighted in the Project Explorer. The bottom status bar shows the "Results Log" and "Project Explorer" tabs, along with the text "Results Log" and "Project Explorer".

Plotting Example of “sens” matrix: “Color Fill”



STEP 7: Filling "Table of Configurations"

Icons meaning:



Select from list

Input something (type or double click to select)

Calculate/read

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

	1
#-EC [EB]	
#-BC	
C[m]	
D[m]	
λ [Å]	
Beam Size	
Abs.Cal. [#-FS]	
Abs.Cal. [#-EB]	
Abs.Cal. [#-BC]	
D-[FSIEB][m]	
μ -[FS]	
Tr-[FSIAtt]	
Factor	
#-"Center"	
X-center	
Y-center	
Mask. Matrix	mask
Sens. Matrix	sens
#-EB	
Tr [EC-to-EB]	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask

Script-Table Tools

Process active Script-Table

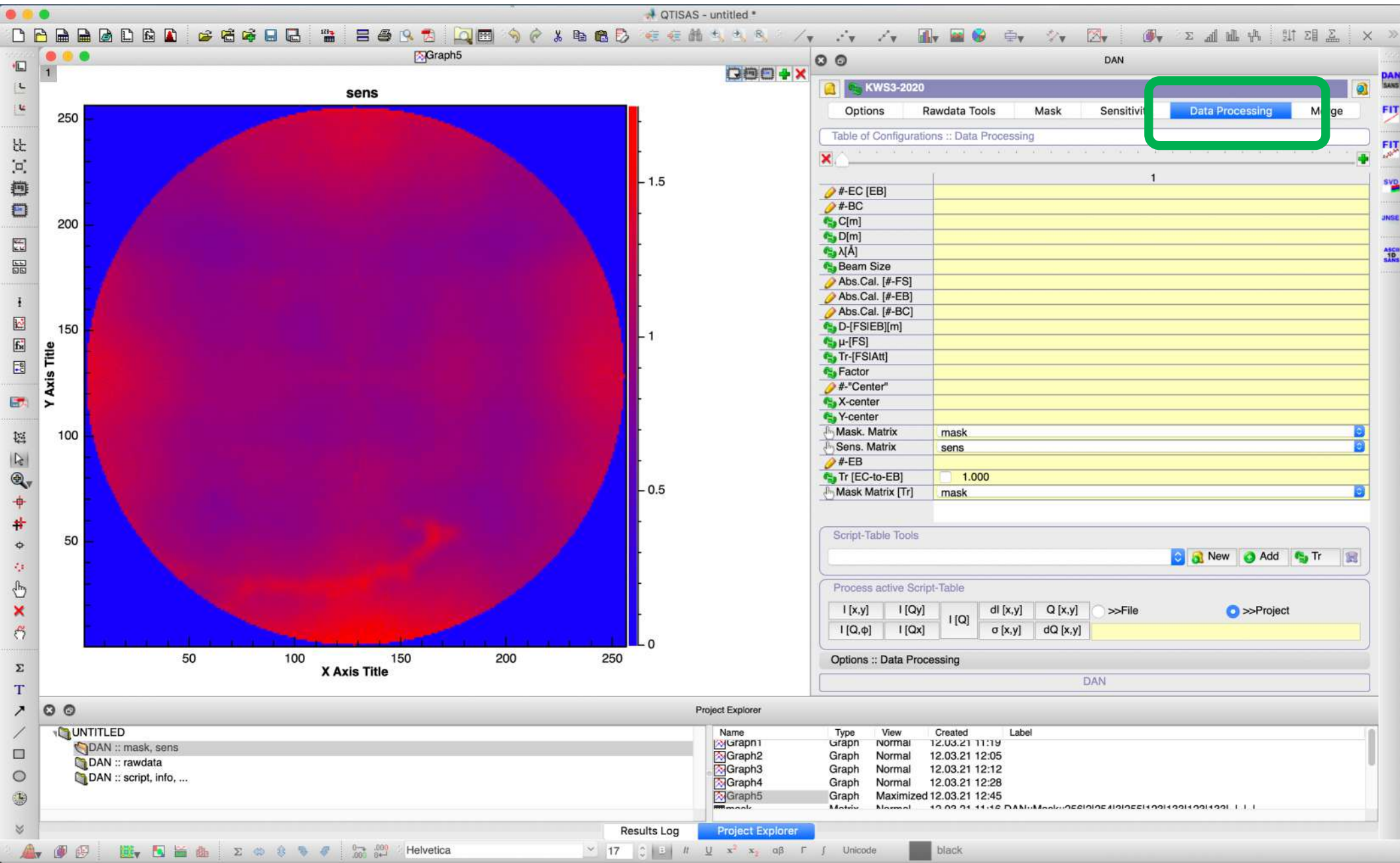
I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Q, ϕ] I [Qx] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

DAN-SANS: go to next tab “Data Processing”



Set Number of Instrument Configuration: in this example 2

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

1

#-EC [EB]

#-BC

C[m]

D[m]

λ [Å]

Beam Size

Abs.Cal. [#-FS]

Abs.Cal. [#-EB]

Abs.Cal. [#-BC]

D-[FSIEB][m]

μ -[FS]

Tr-[FSIAtt]

Factor

#-"Center"

X-center

Y-center

Mask. Matrix

Sens. Matrix

#-EB

Tr [EC-to-EB]

Mask Matrix [Tr]

mask

sens

1.000

mask

Script-Table Tools

NewAddTr

Process active Script-Table

I [x,y]

I [Qy]

I [Q]

dI [x,y]

Q [x,y]

☐ >>File

☒ >>Project

I [Q, ϕ]

I [Qx]

σ [x,y]

dQ [x,y]

Options :: Data Processing

DAN

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

1

2

#-EC [EB]

#-BC

C[m]

D[m]

λ [Å]

Beam Size

Abs.Cal. [#-FS]

Abs.Cal. [#-EB]

Abs.Cal. [#-BC]

D-[FSIEB][m]

μ -[FS]

Tr-[FSIAtt]

Factor

#-"Center"

X-center

Y-center

Mask. Matrix

Sens. Matrix

#-EB

Tr [EC-to-EB]

Mask Matrix [Tr]

D9.2m

D1.2m

mask

sens

1.000

mask

mask

sens

1.000

mask

Script-Table Tools

NewAddTr

Process active Script-Table

I [x,y]

I [Qy]

I [Q]

dI [x,y]

Q [x,y]

☐ >>File

☒ >>Project

I [Q, ϕ]

I [Qx]

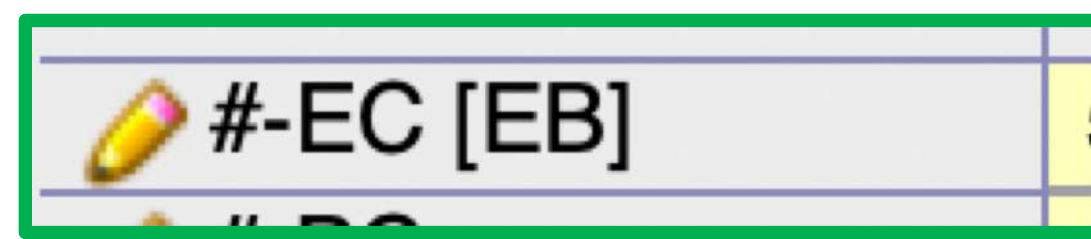
σ [x,y]

dQ [x,y]

Options :: Data Processing

DAN

Empty Beam/Cell Runs



Graph5

sens

data

Name	Date Modified	Size
00000001_0000_sensitivity_HRD_standard.det	15. Mar 2020 at 18:10	285 KB
00000001_0000_sensitivity_HRD_standard.yaml	15. Mar 2020 at 18:10	16 KB
00000002_0000_b4c_HRD_standard.det	15. Mar 2020 at 18:10	131 KB
00000002_0000_b4c_HRD_standard.yaml	15. Mar 2020 at 18:10	16 KB
00082557_0000_H-M_HRD_standard.det	15. Mar 2020 at 18:08	141 KB
00082557_0000_H-M_HRD_standard.yaml	Today at 01:57	16 KB
00082558_0000_EB_HRD_standard.det	15. Mar 2020 at 18:08	134 KB
00082558_0000_EB_HRD_standard.yaml	Today at 01:58	16 KB
00082559_0000_H-J_HRD_standard.det	15. Mar 2020 at 18:08	139 KB
00082559_0000_H-J_HRD_standard.yaml	Today at 01:58	16 KB
00082561_0000_H-L_HRD_standard.det	15. Mar 2020 at 18:08	143 KB
00082561_0000_H-L_HRD_standard.yaml	Today at 01:59	16 KB
00082645_0000_EB_HRD_standard.det	15. Mar 2020 at 19:47	139 KB
00082645_0000_EB_HRD_standard.yaml	Today at 02:03	16 KB
00082646_0000_H-J_HRD_standard.det	15. Mar 2020 at 20:48	140 KB
00082646_0000_H-J_HRD_standard.yaml	Today at 02:04	16 KB
00082647_0000_H-L_HRD_standard.det	15. Mar 2020 at 21:48	142 KB
00082647_0000_H-L_HRD_standard.yaml	Today at 02:04	16 KB
00082648_0000_H-M_HRD_standard.det	15. Mar 2020 at 22:48	141 KB
00082648_0000_H-M_HRD_standard.yaml	Today at 02:03	16 KB

EB: D9.2m

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Table of Configurations :: Data Processing

	1	2
#-EC [EB]		
#-BC		
C[m]		
D[m]		
A[A]		
Beam Size		
Abs.Cal. [#FS]		
Abs.Cal. [#EB]		
Abs.Cal. [#BC]		
D-[FSIEB][m]		
μ-[FS]		
Tr-[FSIAtt]		
Factor		
#-Center*		
X-center		
Y-center		
Mask Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Q,φ] I [Qx] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

Project Explorer

Name	Type	View	Created	Label
UNTITLED				
DAN :: mask, sens	Graph	Normal	12.03.21 11:19	
DAN :: rawdata	Graph	Normal	12.03.21 12:05	
DAN :: script, info, ...	Graph	Normal	12.03.21 12:12	
Graph1	Graph	Normal	12.03.21 12:28	
Graph2	Graph	Maximized	12.03.21 12:45	

Results Log

Project Explorer

Helvetica

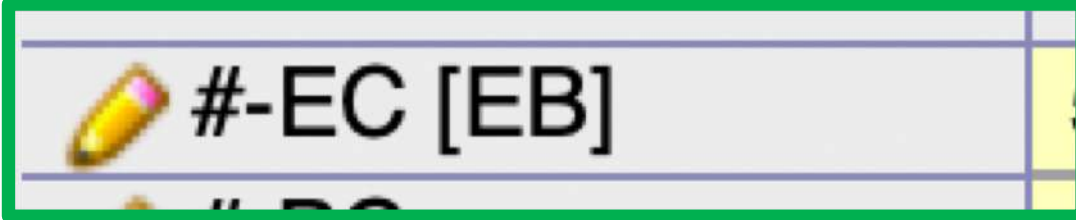
17

Unicode

black

Double Click

Fill: Empty Beam/Cell Runs



DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

	cond.-#1	2
#-EC [EB]	00082558	
#-BC		
C[m]	10	
D[m]	9.200	
λ [Å]	12.787	
Beam Size	2x2 20x20	
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]		
Abs.Cal. [#-BC]		
D-[FS EB][m]		
μ [FS]		
Tr-[FS Att]		
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Q, ϕ] I [Qx] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC		
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]		
Abs.Cal. [#-BC]		
D-[FS EB][m]		
μ [FS]		
Tr-[FS Att]		
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Q, ϕ] I [Qx] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

Fill: Detector Dark Current Runs



DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC		
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]		
Abs.Cal. [#-BC]		
D-[FS EB][m]		
μ -[FS]		
Tr-[FS Att]		
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

New Add Tr

Process active Script-Table

I [x,y]	I [Qy]	I [Q]	dI [x,y]	Q [x,y]	<input type="radio"/> >>File	<input type="radio"/> >>Project
I [Q, ϕ]	I [Qx]		σ [x,y]	dQ [x,y]		

Options :: Data Processing

DAN

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]		
Abs.Cal. [#-BC]		
D-[FS EB][m]		
μ -[FS]		
Tr-[FS Att]		
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

New Add Tr

Process active Script-Table

I [x,y]	I [Qy]	I [Q]	dI [x,y]	Q [x,y]	<input type="radio"/> >>File	<input checked="" type="radio"/> >>Project
I [Q, ϕ]	I [Qx]		σ [x,y]	dQ [x,y]		

Options :: Data Processing

DAN

Fill: Absolute Calibration Runs (Direct Beam Mode)



Abs.Cal. [#-EB]



Abs.Cal. [#-BC]

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2l20x20	2x2l6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]		
Abs.Cal. [#-BC]		
D-[FSIEB][m]		
μ -[FS]		
Tr-[FSIAtt]		
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y]	I [Qy]	I [Q]	dI [x,y]	Q [x,y]	<input type="radio"/> >>File	<input checked="" type="radio"/> >>Project
I [Q,φ]	I [Qx]		σ [x,y]	dQ [x,y]		

Options :: Data Processing

DAN

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2l20x20	2x2l6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FSIEB][m]		
μ -[FS]		
Tr-[FSIAtt]		
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y]	I [Qy]	I [Q]	dI [x,y]	Q [x,y]	<input type="radio"/> >>File	<input checked="" type="radio"/> >>Project
I [Q,φ]	I [Qx]		σ [x,y]	dQ [x,y]		

Options :: Data Processing

DAN

KWS3-2020 (SM) Standard Mode

Data :: Input and Output Folders

SA(N)S Instrument :: Configuration

Absolute Calibration:: Options

Direct Beam [DB]

AG Properties

DirectBeam[KWS-3]

$\mu(\lambda)=\mu_0+\mu_1\exp(\lambda_0/\lambda) :: \mu$ -Factor

μ_0 1.0 μ_1 0.0 λ_0 1.0

☒ Calculate Transmission by Equation:
 $T(\lambda)=T_0-T_1\exp(-\lambda_1/\lambda) ::$ Transmission

T_0 1.0 T_1 0.0 λ_1 1.0

☐ Direct Beam:: Use Current Mask and Sensitivity Matrices

Push :  D-[FSIEB][m] to read Sample to Detector Distances from Headers

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#FS]		
Abs.Cal. [#EB]	00082558	00082645
Abs.Cal. [#BC]	00000002	00000002
D-[FSIEB][m]		
μ -[FS]		
Tr-[FSAtt]		
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Q,φ] I [Qx] I [Q] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#FS]		
Abs.Cal. [#EB]	00082558	00082645
Abs.Cal. [#BC]	00000002	00000002
D-[FSIEB][m]	9.200	1.200
μ -[FS]		
Tr-[FSAtt]		
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

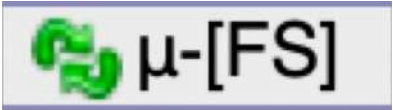
I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Q,φ] I [Qx] I [Q] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

Push :



to calculate mu-factor for every configuration

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ[Å]	12.787	12.787
Beam Size	2x2l20x20	2x2l6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FS EB][m]	9.200	1.200
μ-[FS]		
Tr-[FS Att]		
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Q,φ] I [Qx] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ[Å]	12.787	12.787
Beam Size	2x2l20x20	2x2l6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FS EB][m]	9.200	1.200
μ-[FS]	1.0000E+00	1.0000E+00
Tr-[FS Att]		
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Q,φ] I [Qx] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

$$\mu(\lambda) = \mu_0 + \mu_A \exp(\lambda_A / \lambda) :: \mu\text{-Factor}$$

μ₀ 1.0

μ_A 0.0

λ_A 1.0

Push :  Tr-[FSIAtt] to read transmission of “EB/EB” for every configuration

$$T(\lambda) = T_o - T_A \exp(-\lambda_T / \lambda) \quad \text{:: Transmission}$$

T_o 1.0 T_A 0.0 λ_T 1.0

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ[Å]	12.787	12.787
Beam Size	2x2l20x20	2x2l6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
μ-[FS]	1.0000E+00	1.0000E+00
Tr-[FSIAtt]		
Factor		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

Options :: Data Processing

DAN

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ[Å]	12.787	12.787
Beam Size	2x2l20x20	2x2l6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FSIEB][m]	9.200	1.200
μ-[FS]	1.0000E+00	1.0000E+00
Tr-[FSIAtt]	1.0000	1.0000
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

Options :: Data Processing

DAN

Push :  **Factor** to calculate Absolute Factor for every configuration

! Important: at this step “mask” and “sens” matrixes should be active here !

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ[Å]	12.787	12.787
Beam Size	2x2120x20	2x216.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FSIEB][m]	9.200	1.200
μ-[FS]	1.0000E+00	1.0000E+00
Tr-[FSIAtt]	1.0000	1.0000
Factor		
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y]I [Qy]I [Q]dl [x,y]Q [x,y]>>File>>Project

I [Q,φ]I [Qx]I [Q]σ [x,y]dQ [x,y]

Options :: Data Processing

DAN

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ[Å]	12.787	12.787
Beam Size	2x2120x20	2x216.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FSIEB][m]	9.200	1.200
μ-[FS]	1.0000E+00	1.0000E+00
Tr-[FSIAtt]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y]I [Qy]I [Q]dl [x,y]Q [x,y]>>File>>Project

I [Q,φ]I [Qx]I [Q]σ [x,y]dQ [x,y]

Options :: Data Processing

DAN

Results Log

Sensitivity matrix: "sens".
Mask matrix: "mask".

I Plexi-run-#: 00000001 I EB-run:: ...not used... I BC-run:: ...not used... I Tr : 1.0000
I Normalized Mean Intensity : 0.0803198 ± 0.000357002 I Normalization : Time : 26
I Dead-time correction : 1 I High Q Corrections : Yes : Center : 128.00x128.00 I

DAN :: Abs.Factor (DB) I Condition #1 I 2.8010E+05
DAN :: Abs.Factor (DB) I Condition #2 I 2.8162E+03

Results Log: Output

 #-"Center"

Fill: "Center" Runs

"Center" Runs: at KWS-3 we use Empty-Cell/Empty-beam runs to calculate center

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#FS]		
Abs.Cal. [#EB]	00082558	00082645
Abs.Cal. [#BC]	00000002	00000002
D-[FS EB][m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FS Att]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"		
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y]	I [Qy]	I [Q]	dI [x,y]	Q [x,y]	<input type="radio"/> >>File	<input checked="" type="radio"/> >>Project
I [Q,φ]	I [Qx]		σ [x,y]	dQ [x,y]		

Options :: Data Processing

DAN

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#FS]		
Abs.Cal. [#EB]	00082558	00082645
Abs.Cal. [#BC]	00000002	00000002
D-[FS EB][m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FS Att]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center		
Y-center		
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

Process active Script-Table

I [x,y]	I [Qy]	I [Q]	dI [x,y]	Q [x,y]	<input type="radio"/> >>File	<input checked="" type="radio"/> >>Project
I [Q,φ]	I [Qx]		σ [x,y]	dQ [x,y]		

Options :: Data Processing

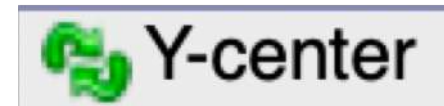
DAN

We use
"EB" sample
also here

Push :



or/and



to calculate center of the beam for all configurations

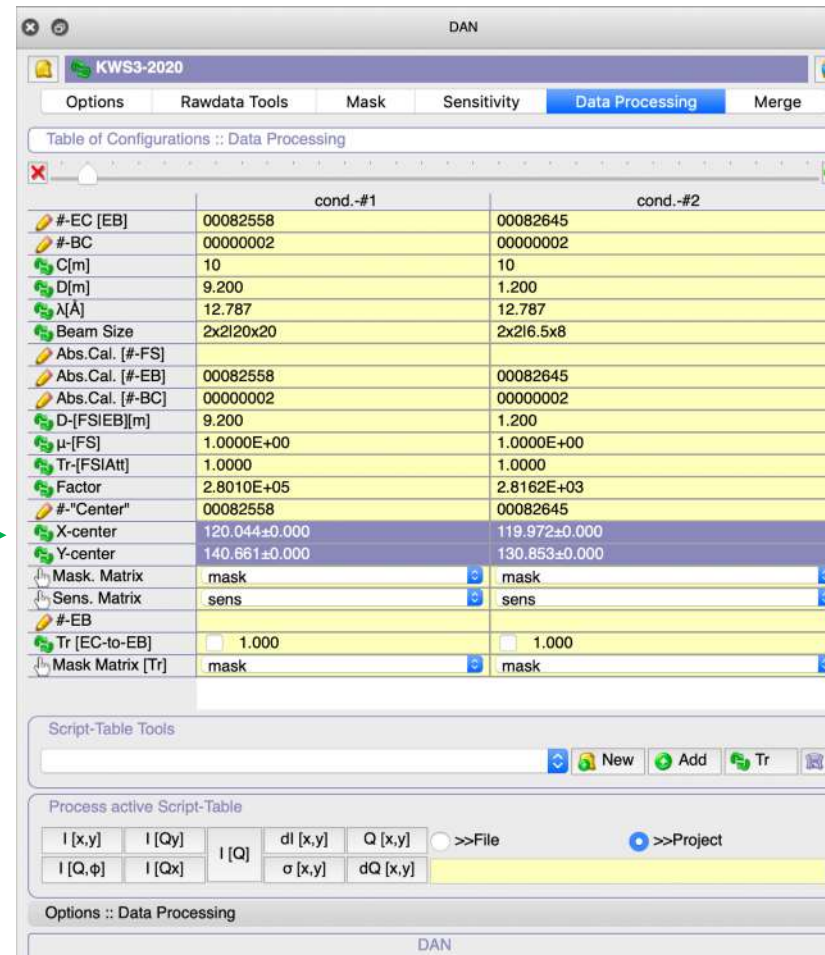
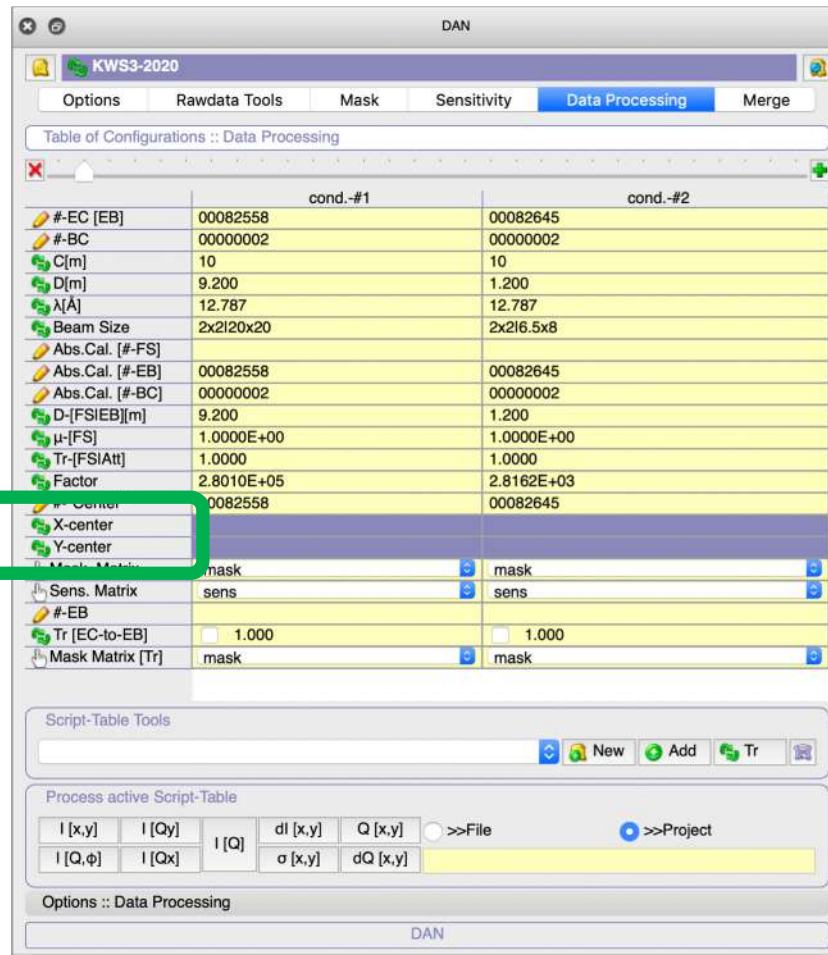
120.044±0.000

140.661±0.000

119.972±0.000

130.853±0.000

! Important: at this step “mask” and “sens” matrixes should be active here !



! Check errors to be sure about correctness of center determination !

- D9.2m and D1.2m configuration: transmission will be calculated separately (both checked);

Tr [EC-to-EB]

☒ 1.000

☒ 1.000

- mask-tr-9m and mask-tr-1m matrixes will be used to calculate transmission

Mask Matrix [Tr]

mask-tr-9m

mask-tr-1m

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FS EB][m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FS Att]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask

Script-Table Tools

NewAddTr

Process active Script-Table

I [x,y]I [Qy]I [Q]dl [x,y]Q [x,y]>>File>>Project

I [Q,φ]I [Qx]σ [x,y]dQ [x,y]

Options :: Data Processing

DAN

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FS EB][m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FS Att]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask. Matrix	mask	mask
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.000	<input checked="" type="checkbox"/> 1.000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Script-Table Tools

NewAddTr

Process active Script-Table

I [x,y]I [Qy]I [Q]dl [x,y]Q [x,y]>>File>>Project


I [Q,φ]I [Qx]σ [x,y]dQ [x,y]

Options :: Data Processing

DAN


Select correct “Sensitivity” and “Mask” Matrixes

 Mask. Matrix

 Sens. Matrix

 Mask. Matrix	mask-bs-9m		mask-bs-1m	
 Sens. Matrix	sens		sens	

DAN

 KWS3-2020

Options

Rawdata Tools






















Mask

Sensitivity






Data Processing

Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
 #-EC [EB]	00082558	00082645
 #-BC	00000002	00000002
 C[m]	10	10
 D[m]	9.200	1.200
 λ[Å]	12.787	12.787
 Beam Size	2x2 20x20	2x2 6.5x8
 Abs.Cal. [#-FS]		
 Abs.Cal. [#-EB]	00082558	00082645
 Abs.Cal. [#-BC]	00000002	00000002
 D-[FS EB][m]	9.200	1.200
 μ-[FS]	1.0000E+00	1.0000E+00
 Tr-[FS Att]	1.0000	1.0000
 Factor	2.0012E+06	2.1477E+04
 #-"Center"	00082558	00082645
 X-center	120.044±0.138	120.020±0.156
 Y-center	137.913±1.025	132.934±0.807
 Mask. Matrix	mask-bs-9m	mask-bs-1m
 Sens. Matrix	sens	sens
 #-EB		
 Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000
 Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Script-Table Tools

  New  Add  Tr 

Process active Script-Table

I [x,y]	I [Qy]	I [Q]	dI [x,y]	Q [x,y]	<input type="radio"/> >>File	<input checked="" type="radio"/> >>Project
I [Q,φ]	I [Qx]		σ [x,y]	dQ [x,y]		

Options :: Data Processing

DAN

mask-bs-9m and mask-bs-1m matrixes
will be used for radial averaging

STEP 8: Creation of “Table of Samples”

Push :  **New** to create empty script-table and than give name to it.

DAN


KWS3-2020

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FS EB][m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FS Att]	1.0000	1.0000
Factor	2.0012E+06	2.1477E+04
#-"Center"	00082558	00082645
X-center	120.044±0.138	120.020±0.156
Y-center	137.913±1.025	132.934±0.807
Mask. Matrix	mask-bs-9m	mask-bs-1m
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Script-Table Tools

 **New** Add Tr

Process active Script-Table

I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Q,φ] I [Qx] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

Creation of Script-Table

Enter name of a new Script-Table:

script

Cancel OK

Empty “script” table is generated in “DAN :: script, info, ...” folder

The screenshot displays the DAN-SANS software interface. On the left, a large empty table titled "script - DAN::Script::Table" is highlighted with a green rounded rectangle. The table has columns: Run-info, #-Run[X], #-Condition, C, D, Lambda, Beam Size, #-BC, #-EC [EB], and Thickness. On the right, the "DAN" panel shows the "Data Processing" tab. It contains a "Table of Configurations :: Data Processing" with two columns: "cond.-#1" and "cond.-#2". Below this is a "Script-Table Tools" section with a dropdown menu set to "script" and buttons for "New", "Add", and "Tr". The "Process active Script-Table" section shows various input/output options. At the bottom, the "Project Explorer" panel shows a tree structure with "DAN :: rawdata" and "DAN :: script, info, ..." highlighted with a green rounded rectangle. The "DAN :: script, info, ..." folder is expanded, showing three sub-items: "info-table", "script", and "script-Settings", all of which are highlighted with a green rounded rectangle.

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2120x20	2x216.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FSIEB][m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FSIAtt]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask. Matrix	mask-bs-9m	mask-bs-1m
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Name	Type	View	Created	Label
info-table	Table	Normal	12.03.21 02:18	Info::Table
script	Table	Maximized	12.03.21 17:47	DAN::Script::Table
script-Settings	Table	Hidden	12.03.21 17:47	DAN::Settings::Table

! Current parameters of !
! DAN-SANS is saved in:!
! Script-Settings table !

Push :  Add to add files for “script” table

script - DAN::Script::Table

Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness	Tra
----------	----------	-------------	---	---	--------	-----------	------	-----------	-----------	-----

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2l20x20	2x2l6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FSIEB][m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FSIAtt]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask. Matrix	mask-bs-9m	mask-bs-1m
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Script-Table Tools

script

NewAddTr

Process active Script-Table

I [x,y]I [Qy]I [Q]

dI [x,y]Q [x,y]>>File>>Project

I [Q,φ]I [Qx]σ [x,y]dQ [x,y]

Options :: Data Processing

DAN

Project Explorer

UNTITLED

DAN :: mask, sens

DAN :: rawdata

DAN :: script, info, ...

Name	Type	View	Created	Label
info-table	Table	Normal	12.03.21 02:18	Info::Table
script	Table	Maximized	12.03.21 17:47	DAN::Script::Table
script-Settings	Table	Hidden	12.03.21 17:47	DAN::Settings::Table

Project ExplorerResults Log

Helvetica17Unicode

Selecting of files for data reduction

script - DAN::Script::Table

Run-info#-Run[X]#-ConditionC D Lambda Beam Size#-BC#-EC [EB]ThicknessTra

data

Search

Favourites

Macintosh HDpipichDesktopDocumentsApplicationsRecentsDownloadsqtikws16qtisas18qtiSASsciebodocsanskws1kws2kws3iCloudiCloud Drive

Name	Date Modified	Size
00000001_0000_sensitivity_HRD_standard.det	15. Mar 2020 at 18:10	285 KB
00000001_0000_sensitivity_HRD_standard.yaml	15. Mar 2020 at 18:10	16 KB
00000002_0000_b4c_HRD_standard.det	15. Mar 2020 at 18:10	131 KB
00000002_0000_b4c_HRD_standard.yaml	15. Mar 2020 at 18:10	16 KB
00082557_0000_H-M_HRD_standard.det	15. Mar 2020 at 18:08	141 KB
00082557_0000_H-M_HRD_standard.yaml	Today at 01:57	16 KB
00082558_0000_EB_HRD_standard.det	15. Mar 2020 at 18:09	134 KB
00082558_0000_EB_HRD_standard.yaml	Today at 01:58	16 KB
00082559_0000_H-J_HRD_standard.det	15. Mar 2020 at 18:08	139 KB
00082559_0000_H-J_HRD_standard.yaml	Today at 01:58	16 KB
00082561_0000_H-L_HRD_standard.det	15. Mar 2020 at 18:08	143 KB
00082561_0000_H-L_HRD_standard.yaml	Today at 01:59	16 KB
00082645_0000_EB_HRD_standard.det	15. Mar 2020 at 19:47	139 KB
00082645_0000_EB_HRD_standard.yaml	Today at 02:03	16 KB
00082646_0000_H-J_HRD_standard.det	15. Mar 2020 at 20:48	140 KB
00082646_0000_H-J_HRD_standard.yaml	Today at 02:04	16 KB
00082647_0000_H-L_HRD_standard.det	15. Mar 2020 at 21:48	142 KB
00082647_0000_H-L_HRD_standard.yaml	Today at 02:04	16 KB
00082648_0000_H-M_HRD_standard.det	15. Mar 2020 at 22:48	141 KB
00082648_0000_H-M_HRD_standard.yaml	Today at 02:03	16 KB

CancelOpen

DAN

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2120x20	2x216.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FSIEB][m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FSIAtt]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask. Matrix	mask-bs-9m	mask-bs-1m
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input type="checkbox"/> 1.0000	<input type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Script-Table Tools

script

NewAddTr

Process active Script-Table

I [x,y]I [Qy]I [Q]

dl [x,y]Q [x,y]>>File>>Project

I [Q,φ]I [Qx]σ [x,y]dQ [x,y]

Options :: Data Processing

DAN

Project Explorer

UNTITLED

DAN :: mask, sensDAN :: rawdataDAN :: script, info, ...

Name	Type	View	Created	Label
info-table	Table	Normal	12.03.21 02:18	Info::Table
script	Table	Maximized	12.03.21 17:47	DAN::Script::Table
script-Settings	Table	Hidden	12.03.21 17:47	DAN::Settings::Table

Results Log

Project ExplorerResults Log

Helvetica17Unicode

“Script” table contains now 3 samples measured in 2 configurations

The screenshot displays the QTIAS software interface. On the left, a table titled "Script" contains 6 rows of data. The columns are: Run-info, #-Run[X], #-Condition, C, D, Lambda, Beam Size, #-BC, #-EC [EB], and Thickness. The data is as follows:

Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness
H-M	00082557		1	10	9.200	12.787 2x2120x20	00000002	00082558	0.100
H-J	00082559		1	10	9.200	12.787 2x2120x20	00000002	00082558	0.100
H-L	00082561		1	10	9.200	12.787 2x2120x20	00000002	00082558	0.100
H-J	00082646	2	10	1.200	12.787	2x216.5x8	00000002	00082645	0.100
H-L	00082647	2	10	1.200	12.787	2x216.5x8	00000002	00082645	0.100
H-M	00082648	2	10	1.200	12.787	2x216.5x8	00000002	00082645	0.100

On the right, the "Data Processing" window is open, showing a "Table of Configurations" for two conditions: cond.-#1 and cond.-#2. The parameters are as follows:

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ[Å]	12.787	12.787
Beam Size	2x2120x20	2x216.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FSIEB][m]	9.200	1.200
μ-[FS]	1.0000E+00	1.0000E+00
Tr-[FSIAtt]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask. Matrix	mask-bs-9m	mask-bs-1m
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

The bottom of the interface shows the "Project Explorer" with a list of files: UNTITLED, DAN :: mask, sens, DAN :: rawdata, and DAN :: script, info, ... The "Results Log" is also visible at the bottom.

“Script” table structure

“Script” table structure

script - DAN::Script::Table																	
	Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness	Transmission-Sample	Factor	X-center[Y]	Y-center[Y]	Mask	Sens	Sta
1	H-M	00082557	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.5380 [±0.0007]	280100	120.04	140.66	mask-bs-9m	sens	
2	H-J	00082559	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.5471 [±0.0007]	280100	120.04	140.66	mask-bs-9m	sens	
3	H-L	00082561	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.4829 [±0.0006]	280100	120.04	140.66	mask-bs-9m	sens	
4	H-J	00082646	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.8232 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	
5	H-L	00082647	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.7811 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	
6	H-M	00082648	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.8088 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	

“Script” table structure

1	2	3	4	5	6	7	8	9: I_{EC}	10: d	11: Tr	12: AC_{factor}	13: X_{center}	14: Y_{center}	15: mask	16: sens	17
Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness	Transmission-Sample	Factor	X-center[Y]	Y-center[Y]	Mask	Sens	Sta
H-M	00082557	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.5380 [± 0.0007]	280100	120.04	140.66	mask-bs-9m	sens	
H-J	00082559	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.5471 [± 0.0007]	280100	120.04	140.66	mask-bs-9m	sens	
H-L	00082561	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.4829 [± 0.0006]	280100	120.04	140.66	mask-bs-9m	sens	
H-J	00082646	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.8232 [± 0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	
H-L	00082647	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.7811 [± 0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	
H-M	00082648	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.8088 [± 0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	

1. Sample Name column
2. Run Number column: “ I_{sample} ”
3. Condition Number , it corresponds to column number in the table of configurations in DAN-SANS
4. Collimation Distance column
5. Sample-To-detector Distance column: “D”
6. Wave Length column: “ λ ”
7. Column Collimation and Sample Apertures “Beam Size”
8. Dark Current column with run numbers corresponding to the blocked beam measurements (Boron Carbonate): “ I_{BC} ”

“Script” table structure

1	2	3	4	5	6	7	8	9: I_{EC}	10: d	11: Tr	12: AC_{factor}	13: X_{center}	14: Y_{center}	15: mask	16: sens	17
Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness	Transmission-Sample	Factor	X-center[Y]	Y-center[Y]	Mask	Sens	Sta
H-M	00082557	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.5380 [± 0.0007]	280100	120.04	140.66	mask-bs-9m	sens	
H-J	00082559	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.5471 [± 0.0007]	280100	120.04	140.66	mask-bs-9m	sens	
H-L	00082561	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.4829 [± 0.0006]	280100	120.04	140.66	mask-bs-9m	sens	
H-J	00082646	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.8232 [± 0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	
H-L	00082647	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.7811 [± 0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	
H-M	00082648	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.8088 [± 0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	

9. Empty Cell column: run numbers will be subtracted as EC (EB) from the sample: “ I_{EC} ”

10. Sample Thickness column: “d”

11. Sample Transmission column: “Tr”

12. Absolute Calibration Factor column “ AC_{factor} ”

13. X-center column “ X_{center} ”

14. Y-center column “ Y_{center} ”

15. Mask Matrix column: “mask”

16. Sensitivity Matrix column: “sens”

17. After-Processing-Status column

“Script” table structure: Matrix calculation for every file:

script - DAN::Script::Table																
Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness	Transmission-Sample	Factor	X-center[Y]	Y-center[Y]	Mask	Sens	Sta
1 H-M	00082557	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.5380 [±0.0007]	280100	120.04	140.66	mask-bs-9m	sens	
2 H-J	00082559	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.5471 [±0.0007]	280100	120.04	140.66	mask-bs-9m	sens	
3 H-L	00082561	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.4829 [±0.0006]	280100	120.04	140.66	mask-bs-9m	sens	
4 H-J	00082646	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.8232 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	
5 H-L	00082647	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.7811 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	
6 H-M	00082648	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.8088 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens	

$$\frac{d\Sigma}{d\Omega}[i,j] = mask[i,j] \cdot sens[i,j] \cdot \frac{AC_{factor}}{d \cdot Tr} \cdot \left(I_{sample} - I_{BC} - Tr \cdot (I_{EC} - I_{BC}) \right)$$

I: means normalized intensity
+ Dead-Time correction
+ Wide Angle corrections

**! In “processing” only parameters in the Script-Table
is used – NOT FROM HEADE !**

“Script” table structure: **Wave Vector Q calculation** for every file, every pixel:

script - DAN::Script::Table																	
Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness	Transmission-Sample	Factor	X-center[Y]	Y-center[Y]	Mask	Sens	Sta	
1 H-M	00082557	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.5380 [±0.0007]	280100	120.04	140.66	mask-bs-9m	sens		
2 H-J	00082559	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.5471 [±0.0007]	280100	120.04	140.66	mask-bs-9m	sens		
3 H-L	00082561	1	10	9.200	12.787	2x2 20x20	00000002	00082558	0.100	0.4829 [±0.0006]	280100	120.04	140.66	mask-bs-9m	sens		
4 H-J	00082646	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.8232 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens		
5 H-L	00082647	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.7811 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens		
6 H-M	00082648	2	10	1.200	12.787	2x2 6.5x8	00000002	00082645	0.100	0.8088 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens		

5

6: λ

13: X_{center}

14: Y_{center}

$$Q[i,j] = \frac{4\pi}{\lambda} \cdot \sin \left(\tan^{-1} \left(\frac{pixel_{size} \cdot \sqrt{(i - X_{center})^2 + (j - Y_{center})^2}}{2D} \right) \right)$$

+ Wide Angle corrections

Read :: Numbers-per-Line	256	256
Dimension	256	256
Pixel Width [cm]	0.034	0.034
Pixel Aspect Ratio	1.0	1.0

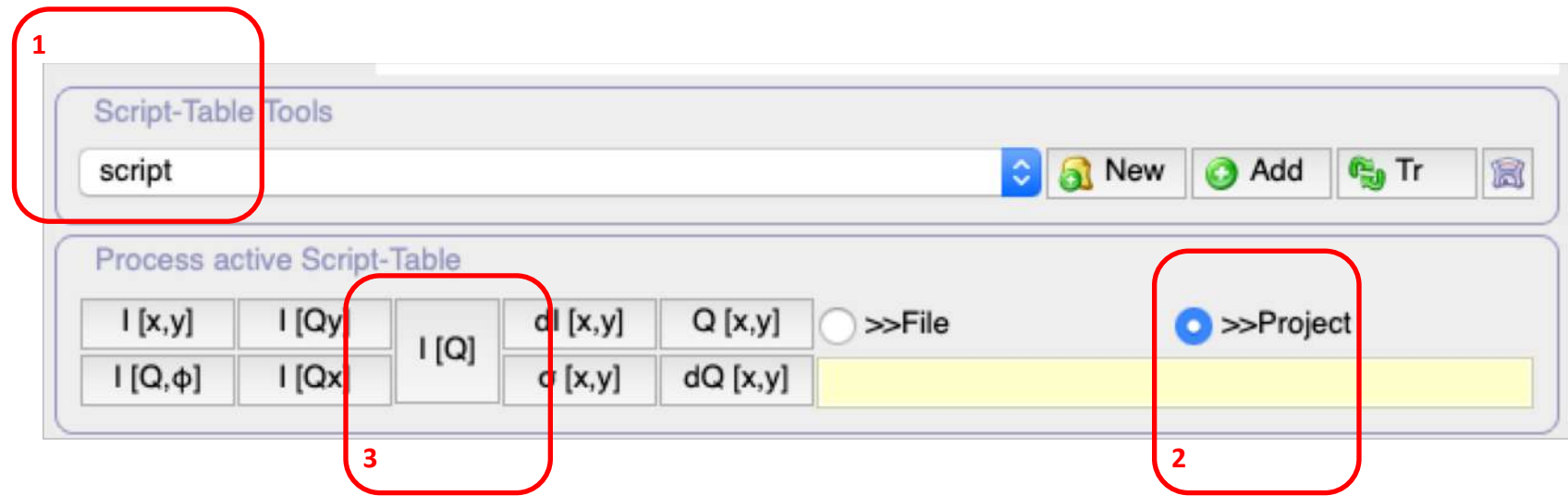
$pixel_{size} = 0.034cm$

! In “processing” only parameters in the Script-Table is used – NOT FROM HEADE !

“Processing” tools/options

Data “Processing”

in 3 steps:



1. Select(Create) script table

2. Select way how data will be saved after processing:

- as tables/matrixes in the current project (“>>Project”)
- or as ASCII files in “Output Folder” (“>>File”)

3. Push one of Processing Buttons:

- **I[Q]** for radial averaging;
- **I[x,y]** for matrix generation in Cartesian coordinates;
- **I[Q,φ]** for matrix generation in Polar coordinates;
- **I[Qx]** or **I[Qz]** for horizontal or vertical slices;
- **dl[x,y]**, **Q[x,y]**, **dQ[x,y]**, **σ[x,y]** for error-bar matrix, wave-vector matrix, error-bar matrix of wave-vector, resolution matrix...

STEP 9: Radial Averaging

1. **Selected:** “script” table
2. **Selected:** as tables/matrixes in the current project (“>>**Project**”)
3. **Pushed:** $I[Q]$ for radial averaging;

In “DAN:: I[Q]” folder 9 tables are created

QTISAS - untitled *

QI-SM-00082648-H-M - H-M QI-SM-00082647-H-L - H-L QI-SM-00082646-H-J - H-J DAN

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ[Å]	12.787	12.787
Beam Size	2x2120x20	2x216.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FSIEB][m]	9.200	1.200
μ-[FS]	1.0000E+00	1.0000E+00
Tr-[FSIEB]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask Matrix	mask-bs-9m	mask-bs-1m
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Script-Table Tools

script

Process active Script-Table

I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Q,φ] I [Qx] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

Project Explorer

Name	Type	View	Created	Label
QI-SM-00082557-H-M	Table	Normal	2.03.21 18:06 H-M	
QI-SM-00082559-H-J	Table	Normal	2.03.21 18:06 H-J	
QI-SM-00082561-H-L	Table	Normal	2.03.21 18:06 H-L	
QI-SM-00082646-H-J	Table	Normal	2.03.21 18:06 H-J	
QI-SM-00082647-H-L	Table	Normal	2.03.21 18:06 H-L	

Project Explorer Results Log

UNTTLED







- DAN :: I [Q]
- DAN :: mask, sens
- DAN :: script, info, ...

Project Explorer Results Log

Helvetica 17 B It U x² x₂ αβ f Unicode

Default Table's name Format

Object Explorer

Name	Type	View	Created	Label
 QI-SM-00082557-H-M	Table	Normal	12.03.21 18:06	H-M
 QI-SM-00082559-H-J	Table	Normal	12.03.21 18:06	H-J
 QI-SM-00082561-H-L	Table	Normal	12.03.21 18:06	H-L
 QI-SM-00082646-H-J	Table	Normal	12.03.21 18:06	H-J
 QI-SM-00082647-H-L	Table	Normal	12.03.21 18:06	H-L
 QI-SM-00082648-H-M	Table	Normal	12.03.21 18:07	H-M

QI-SM-#####-SampleName

QI: radial av. Mode

SM: “Standard” Mode

#####: run number

SampleName: Sample Name 😊

Example of Plotting of Radial Averaged Datasets

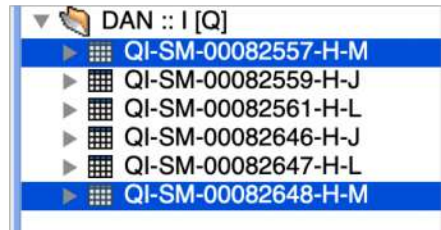
Plotting example:

1. Create empty 2D Plot



2. Menu Graph: select "Add/Remove Curve ..."

3. Select Data to Plot:
(H-J sample here)



4(optional). Check "+yErr":
Automatically to add also error-bars



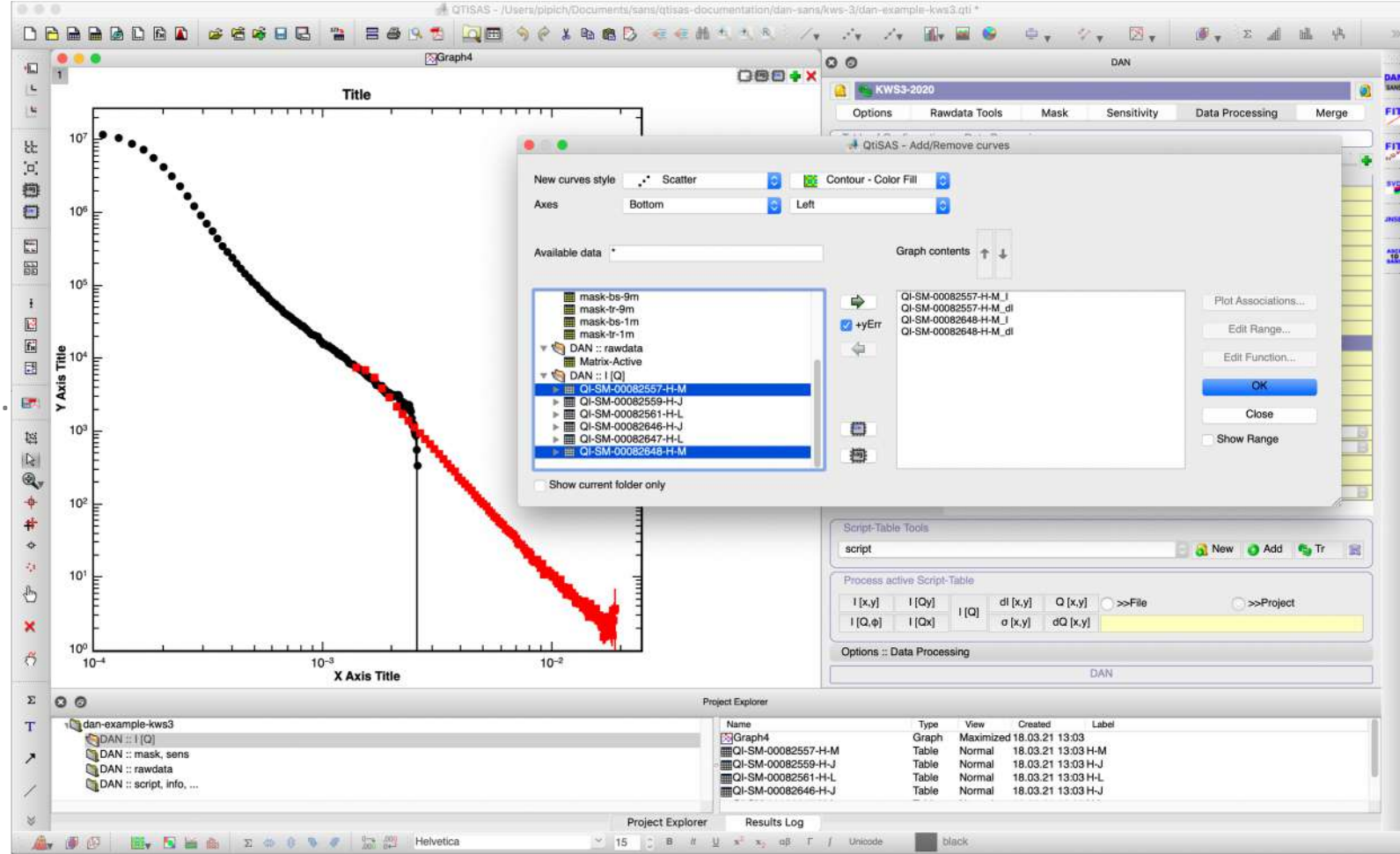
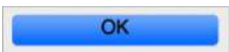
5. Push "Add" button:



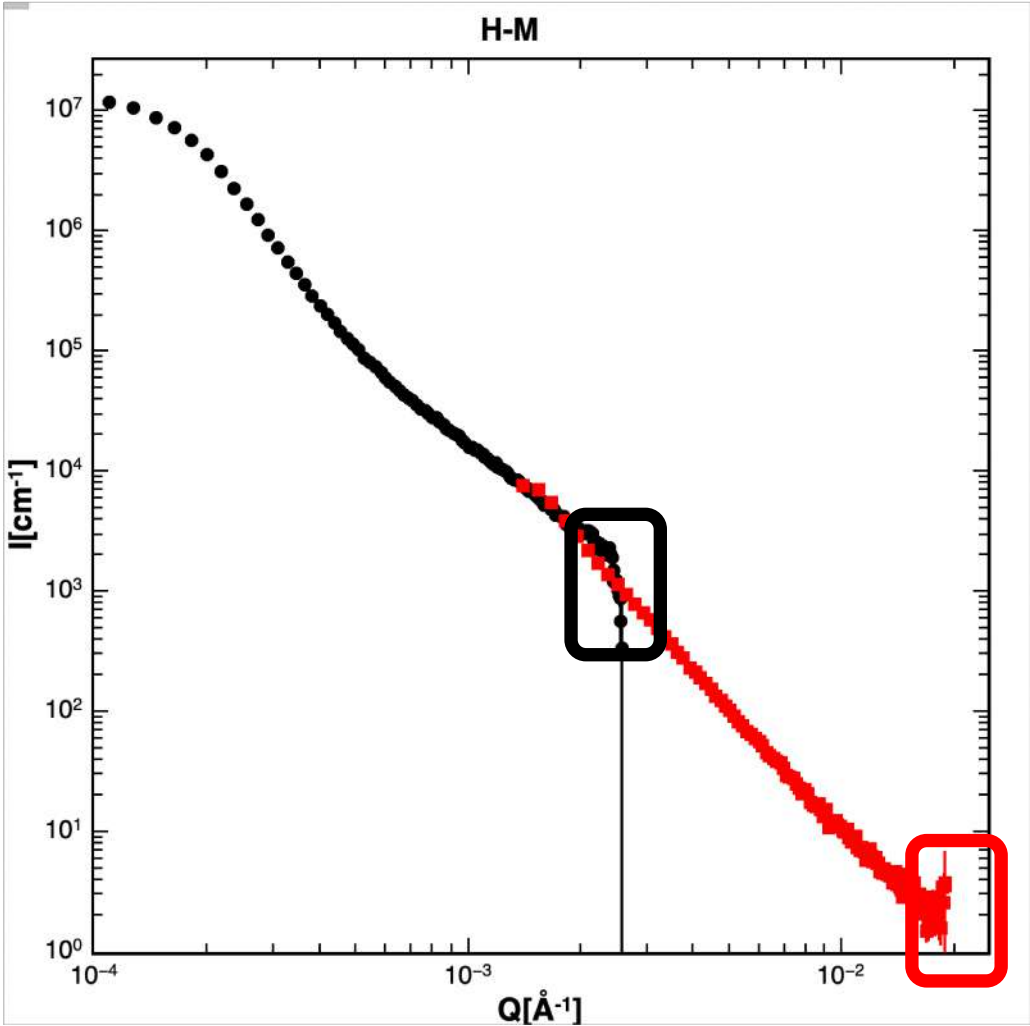
6 (optional). Push "log" for double-logarithmic presentation



7. Push "OK" button to close "Add/Remove" interface



Plotting example: result



DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity **Data Processing** Merge

Table of Configurations :: Data Processing

Options :: Data Processing

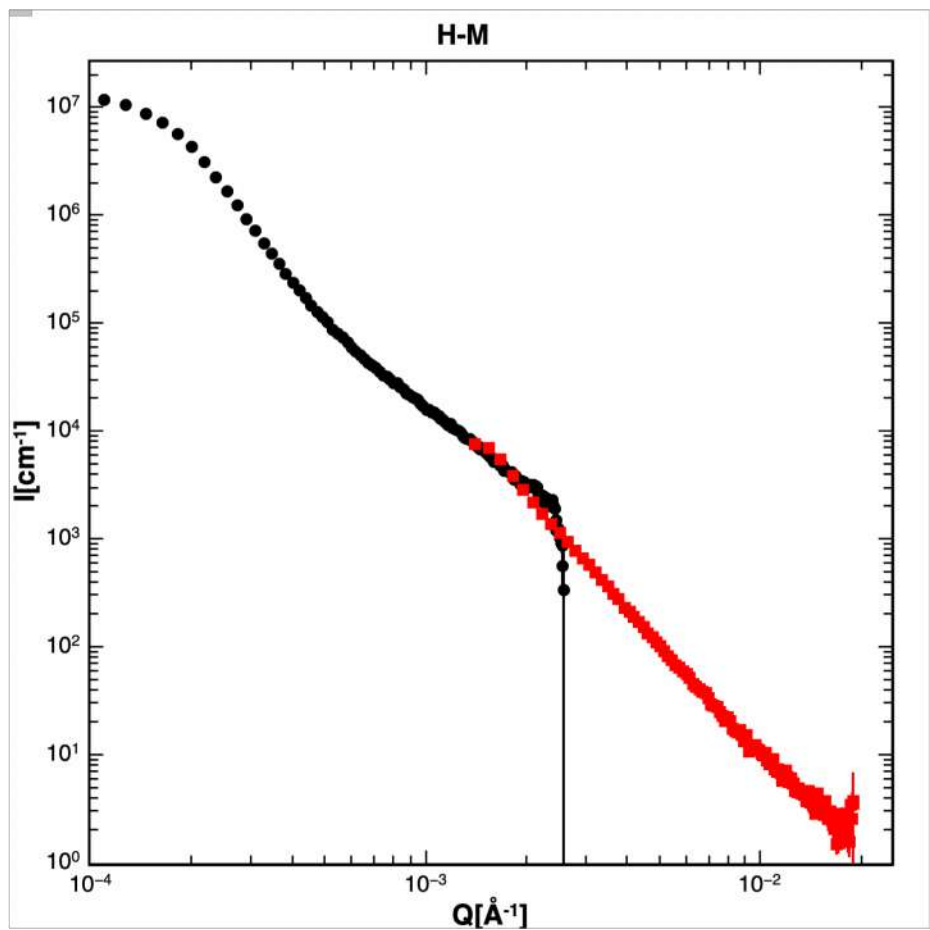
☐ Options :: [2D] ☒ Options :: [1D] ☐ Options :: Script Table

I[Q] :: Remove Points

First: 0 points Last: 5 points

☐ Negative Points

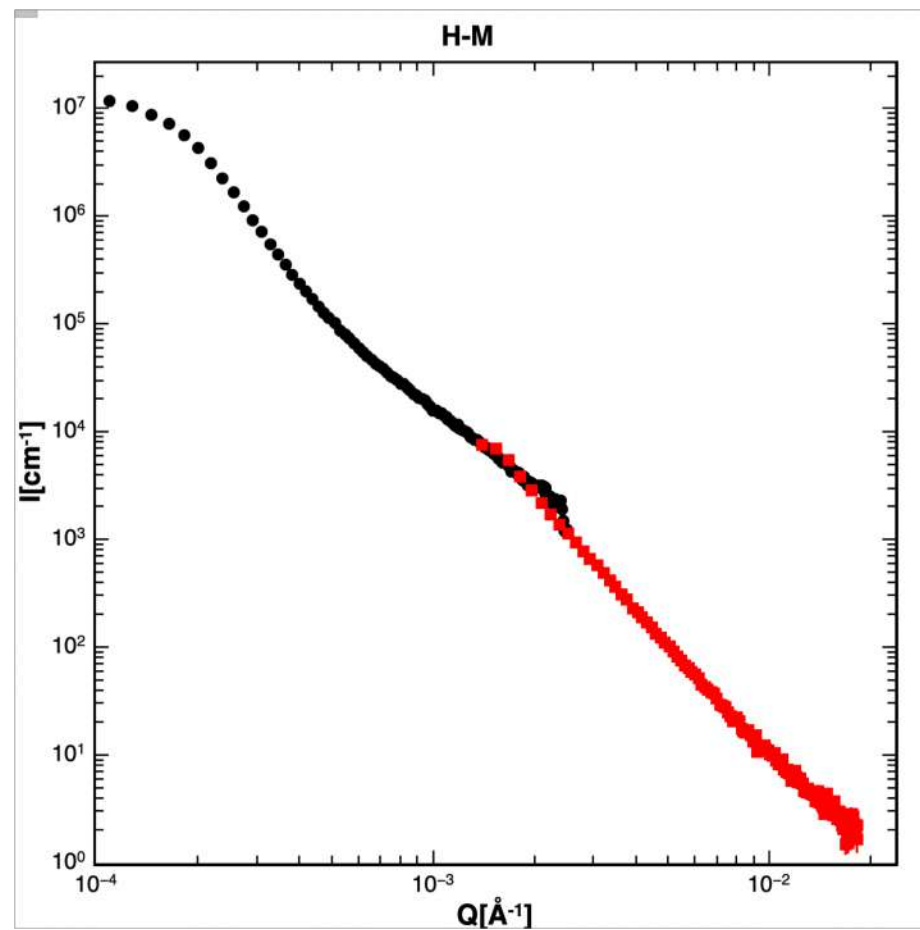
DAN



Last: 5 points

Input table

Q	$I [Q]$	dI/dQ
Q	$I [Q]$	σ



STEP 10: Data Merging

Merging Step #1: go to “Merge” tab (DAN-SANS) and activate “script-mergingTemplate”

The screenshot shows the QTISAS software interface. The main window is titled "script-mergingTemplate - DAN::Merging::Template". It contains a table with 3 columns: 1[X], 2[Y], and 3[Y]. The table has 3 rows of data:

	1[X]	2[Y]	3[Y]
1	H-M	QI-SM-00082557-H-M	QI-SM-00082648-H-M
2	H-J	QI-SM-00082559-H-J	QI-SM-00082646-H-J
3	H-L	QI-SM-00082561-H-L	QI-SM-00082647-H-L

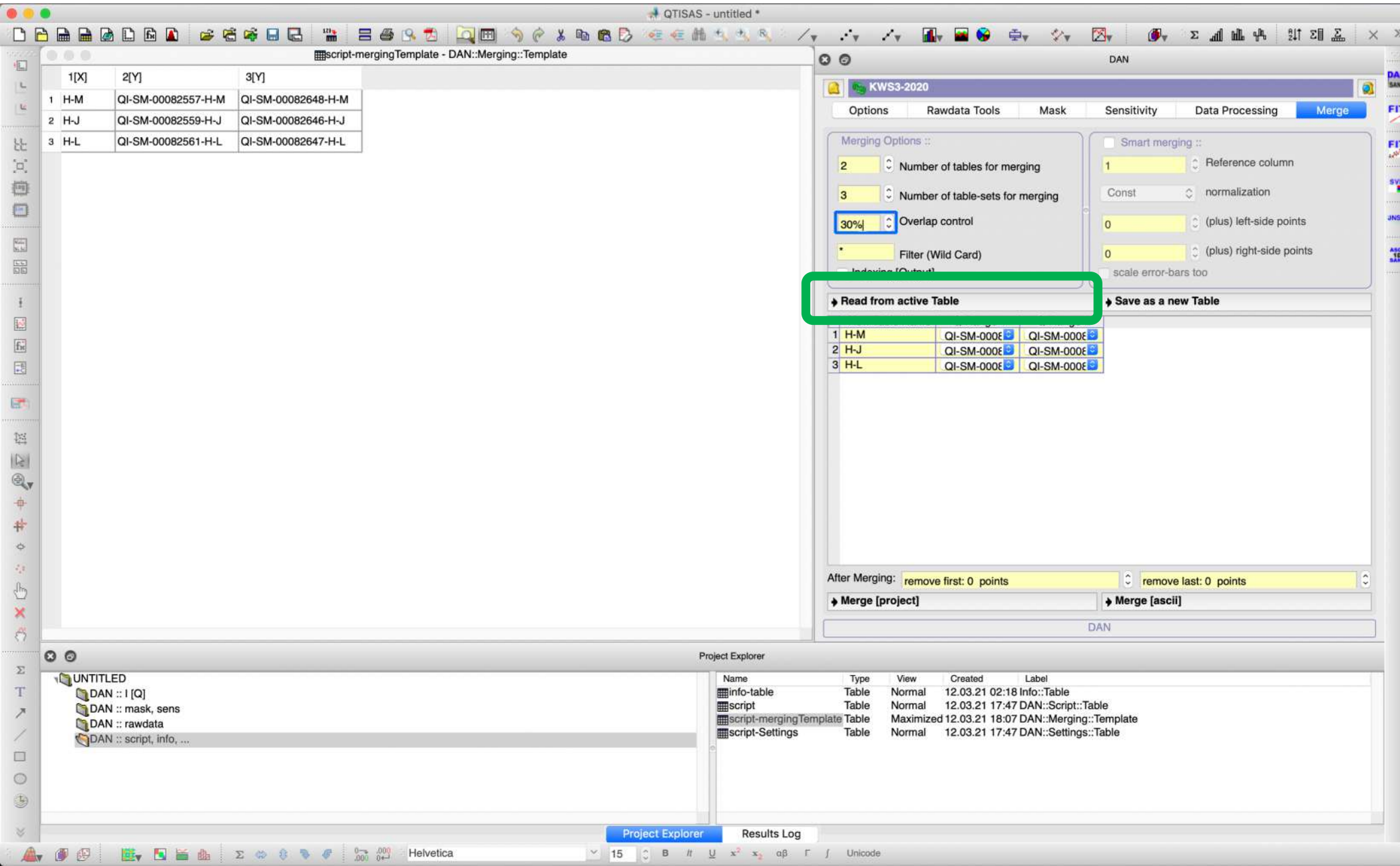
The right panel shows the "DAN" project settings. The "Merge" tab is selected, and the "Merge" button is highlighted with a green box. The "Merge" button is located in the top right corner of the "DAN" panel.

The bottom panel shows the "Project Explorer" with a table of files. The "script-mergingTemplate" file is highlighted with a green box. The "DAN :: script, info, ..." file is highlighted with a green box in the Project Explorer.

The "Project Explorer" table:

Name	Type	View	Created	Label
info-table	Table	Normal	12.03.21 02:18	Info::Table
script	Table	Normal	12.03.21 17:47	DAN::Script::Table
script-mergingTemplate	Table	Maximize	12.03.21 18:07	DAN::Merging::Template
script-Settings	Table	Normal	12.03.21 17:47	DAN::Settings::Table

Merging Step #2: push button “Read active Table” to transfer data to Merge-interface



The screenshot shows the QTISAS software interface. The main window displays a table with 3 columns: 1[X], 2[Y], and 3[Y]. The right panel shows the 'Merge' tab with various options. A green box highlights the 'Read from active Table' button. The bottom panel shows the Project Explorer with a list of tables.

Table 1: Data from the main window

	1[X]	2[Y]	3[Y]
1	H-M	QI-SM-00082557-H-M	QI-SM-00082648-H-M
2	H-J	QI-SM-00082559-H-J	QI-SM-00082646-H-J
3	H-L	QI-SM-00082561-H-L	QI-SM-00082647-H-L

Table 2: Merging Options

Option	Value
Number of tables for merging	2
Number of table-sets for merging	3
Overlap control	30%
Filter (Wild Card)	*

Table 3: Smart merging options

Option	Value
Reference column	1
normalization	Const
(plus) left-side points	0
(plus) right-side points	0
scale error-bars too	

Table 4: Project Explorer

Name	Type	View	Created	Label
info-table	Table	Normal	12.03.21 02:18	Info::Table
script	Table	Normal	12.03.21 17:47	DAN::Script::Table
script-mergingTemplate	Table	Maximized	12.03.21 18:07	DAN::Merging::Template
script-Settings	Table	Normal	12.03.21 17:47	DAN::Settings::Table

Merging Step #3: push button “Merge [Project]” or “Merge[ascii]”

The screenshot shows the QTISAS software interface. The main window displays a table with three columns: 1[X], 2[Y], and 3[Y]. The table contains three rows of data:

	1[X]	2[Y]	3[Y]
1	H-M	QI-SM-00082557-H-M	QI-SM-00082648-H-M
2	H-J	QI-SM-00082559-H-J	QI-SM-00082646-H-J
3	H-L	QI-SM-00082561-H-L	QI-SM-00082647-H-L

The right panel shows the 'Merge' options. The 'Merge' button is highlighted. The 'Merge [project]' button is highlighted with a green box. The 'Merge [ascii]' button is also visible.

The bottom panel shows the 'Project Explorer' with a list of tables:

Name	Type	View	Created	Label
info-table	Table	Normal	12.03.21 02:18	Info::Table
script	Table	Normal	12.03.21 17:47	DAN::Script::Table
script-mergingTemplate	Table	Maximized	12.03.21 18:07	DAN::Merging::Template
script-Settings	Table	Normal	12.03.21 17:47	DAN::Settings::Table

Merging Result: merged tables are located in "DANP:: Merge.1D"

The screenshot displays the QTISAS software interface. The main window shows a table titled "H-J - Merged Tables >> QI-SM-00082559-H-J, QI-SM-00082646-H-J," with columns Q[X], I[Y], dl[yEr], and Sigma[xEr]. The table contains 26 rows of data. To the right, the "DAN" panel is open, showing the "Merge" tab. The "Merging Options" section includes settings for the number of tables (2), number of table-sets (3), overlap control (30%), and a filter (Wild Card). The "Smart merging" section includes a reference column (1), normalization (Const), and options for left-side points (0), right-side points (0), and scale error-bars too. The "Read from active Table" section shows a table with columns New Table Name, Q-Range-1, and Q-Range-2. The "Save as a new Table" section is also visible. The "After Merging" section shows options to remove first and last points. The "Merge [project]" and "Merge [ascii]" buttons are at the bottom of the panel. The "Project Explorer" panel at the bottom left shows a tree view of the project files, including "DANP:: Merge.1D". The "Results Log" panel at the bottom right shows the log of the merge operation.

	Q[X]	I[Y]	dl[yEr]	Sigma[xEr]
1	1.271160E-04	9.287077E+06	5.051141E+04	6.813068E-05
2	1.452755E-04	7.931146E+06	2.251340E+04	6.817976E-05
3	1.634349E-04	6.311965E+06	1.555531E+04	6.823534E-05
4	1.815943E-04	5.037272E+06	1.175937E+04	6.829741E-05
5	1.997538E-04	3.839703E+06	8.849378E+03	6.836595E-05
6	2.179132E-04	2.832747E+06	6.672048E+03	6.844093E-05
7	2.360726E-04	2.058723E+06	5.065044E+03	6.852234E-05
8	2.542320E-04	1.501675E+06	3.890659E+03	6.861016E-05
9	2.723915E-04	1.093075E+06	3.086823E+03	6.870435E-05
10	2.905509E-04	8.075856E+05	2.493597E+03	6.880490E-05
11	3.087103E-04	6.165767E+05	2.059113E+03	6.891178E-05
12	3.268697E-04	4.752268E+05	1.735980E+03	6.902495E-05
13	3.450292E-04	3.670543E+05	1.482032E+03	6.914439E-05
14	3.631886E-04	2.912832E+05	1.284972E+03	6.927006E-05
15	3.813480E-04	2.334986E+05	1.107249E+03	6.940193E-05
16	3.995074E-04	1.929276E+05	9.868273E+02	6.953996E-05
17	4.176669E-04	1.619467E+05	8.915173E+02	6.968412E-05
18	4.358263E-04	1.364995E+05	7.949132E+02	6.983437E-05
19	4.539857E-04	1.121922E+05	7.123313E+02	6.999067E-05
20	4.721451E-04	9.640490E+04	6.562876E+02	7.015298E-05
21	4.903045E-04	8.685761E+04	6.127220E+02	7.032126E-05
22	5.084639E-04	7.418981E+04	5.579624E+02	7.049547E-05
23	5.266233E-04	6.346756E+04	5.110566E+02	7.067555E-05
24	5.447827E-04	5.667922E+04	4.744636E+02	7.086147E-05
25	5.629422E-04	5.106916E+04	4.392487E+02	7.105319E-05
26	5.811016E-04	4.642044E+04	4.152443E+02	7.125065E-05

Project Explorer

Name	Type	View	Created	Label
H-J	Table	Maximized	12.03.21 18:15	Merged Tables >> QI-SM-00082559-H-J, QI-SM-00082646-H-J,
H-L	Table	Hidden	12.03.21 18:15	Merged Tables >> QI-SM-00082561-H-L, QI-SM-00082647-H-L,
H-M	Table	Hidden	12.03.21 18:15	Merged Tables >> QI-SM-00082557-H-M, QI-SM-00082648-H-M,

Results Log

Project Explorer Results Log

Plotting Example of Merged Data

QTISAS - untitled *

H-M - Merged Tables >> QI-SM-00082557-H-M, QI-SM-00082648-H-M,

	Q[X]	I[Y]	dI/yFr	SinmIvFr
1	1.271160E-04	9.237648E+06	5.0	
2	1.452755E-04	7.923909E+06	2.2	
3	1.634349E-04	6.308027E+06	1.5	
4	1.815943E-04	5.017792E+06	1.1	
5	1.997538E-04	3.839019E+06	8.9	
6	2.179132E-04	2.841533E+06	6.7	
7	2.360726E-04	2.077332E+06	5.1	
8	2.542320E-04	1.526790E+06	3.9	
9	2.723915E-04	1.122209E+06	3.1	
10	2.905509E-04	8.486905E+05	2.5	
11	3.087103E-04	6.516827E+05	2.1	
12	3.268697E-04	5.059601E+05	1.8	
13	3.450292E-04	3.981176E+05	1.5	
14	3.631886E-04	3.204110E+05	1.3	
15	3.813480E-04	2.626791E+05	1.1	
16	3.995074E-04	2.188616E+05	1.0	
17	4.176669E-04	1.829712E+05	9.4	
18	4.358263E-04	1.553340E+05	8.471072E+02	6.983437E-05
19	4.539857E-04	1.317065E+05	7.686507E+02	6.999067E-05
20	4.721451E-04	1.152279E+05	7.117695E+02	7.015298E-05
21	4.903045E-04	1.027416E+05	6.587884E+02	7.032126E-05
22	5.084639E-04	9.170521E+04	6.108560E+02	7.049547E-05
23	5.266233E-04	7.995979E+04	5.623221E+02	7.067555E-05
24	5.447827E-04	7.250249E+04	5.260211E+02	7.086147E-05
25	5.629422E-04	6.761023E+04	4.941126E+02	7.105319E-05
26	5.811016E-04	6.076941E+04	4.630169E+02	7.125065E-05

Plot

- Line
- Scatter
- Line + Symbol
- Special Line/Symbol
- Columns
- Rows
- Special Bar/Column
- Area
- Vectors XYXY
- Vectors XYAM
- Statistical Graphs
- Panel
- Shared Axes Panel

KWS3-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Merging Options ::

2 Number of tables for merging

3 Number of table-sets for merging

30% Overlap control

Filter (Wild Card)

Indexing [Output]

Smart merging ::

1 Reference column

Const normalization

0 (plus) left-side points

0 (plus) right-side points

scale error-bars too

Read from active Table

New Table Name	Q-Range-1	Q-Range-2
1 H-M	QI-SM-000E	QI-SM-000E
2 H-J	QI-SM-000E	QI-SM-000E
3 H-L	QI-SM-000E	QI-SM-000E

Save as a new Table

After Merging: remove first: 0 points remove last: 0 points

Merge [project] Merge [ascii]

DAN

Project Explorer

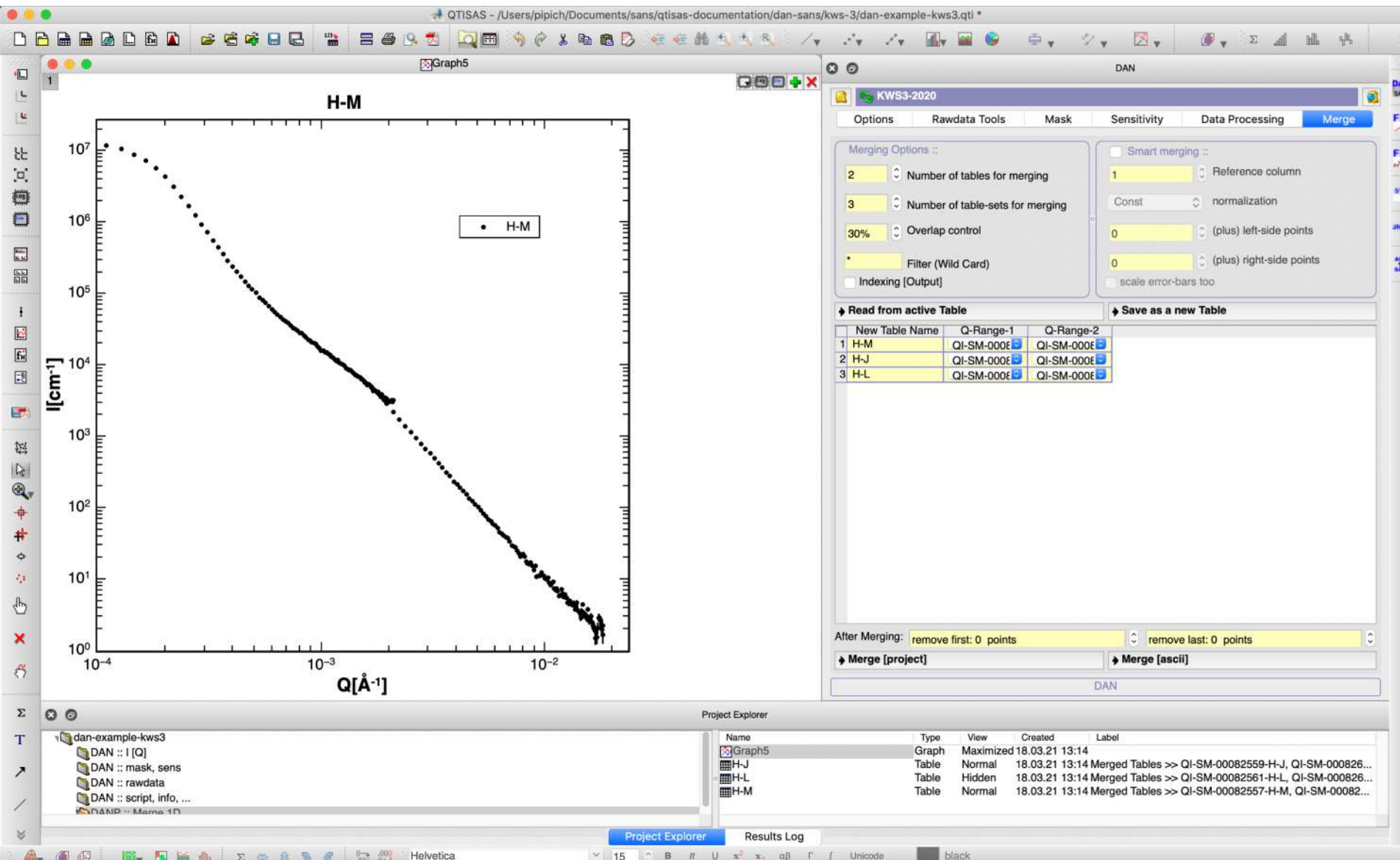
UNTITLED

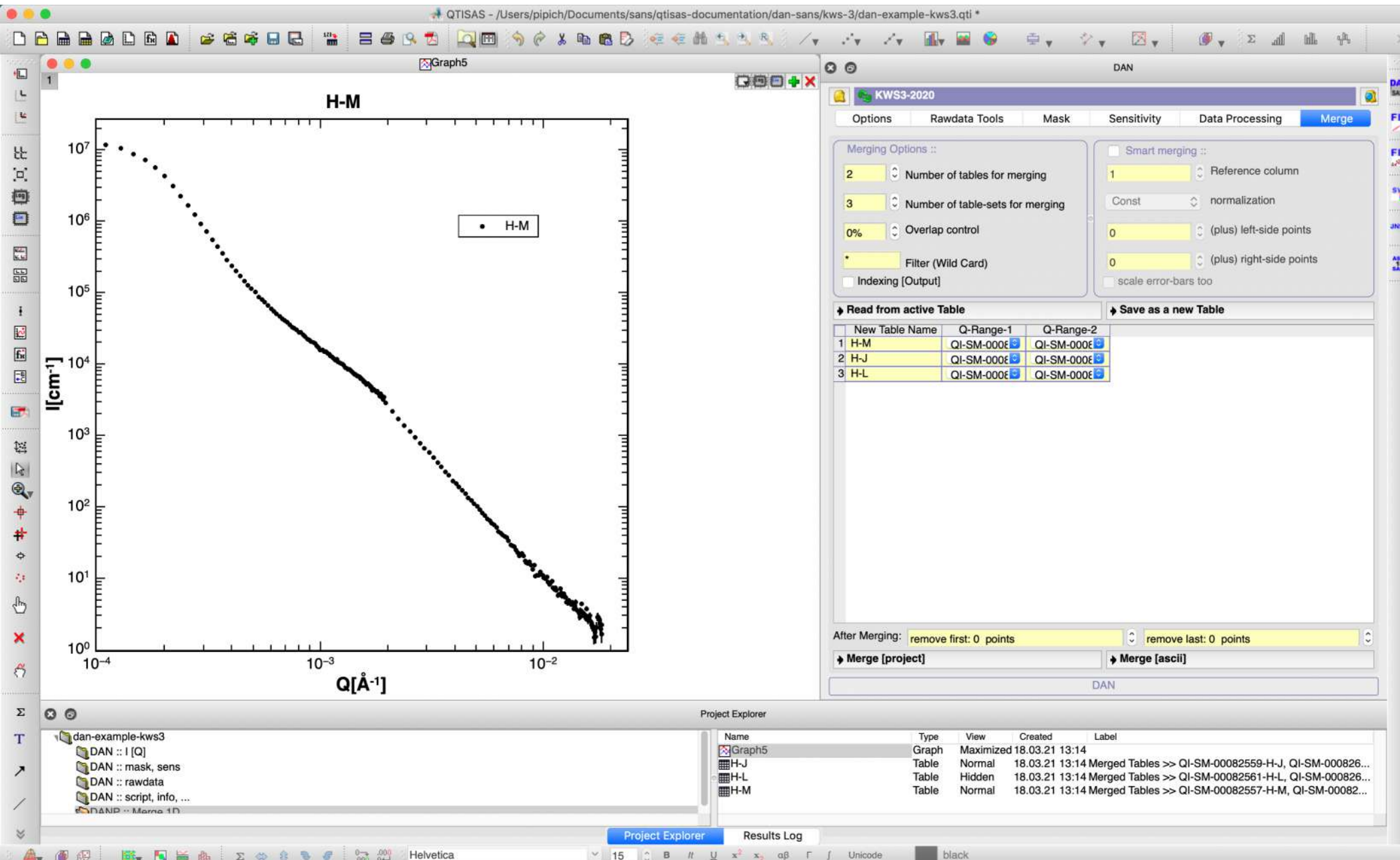
- DAN :: I [Q]
- DAN :: mask, sens
- DAN :: rawdata
- DAN :: script, info, ...
- DANP :: Merge.1D

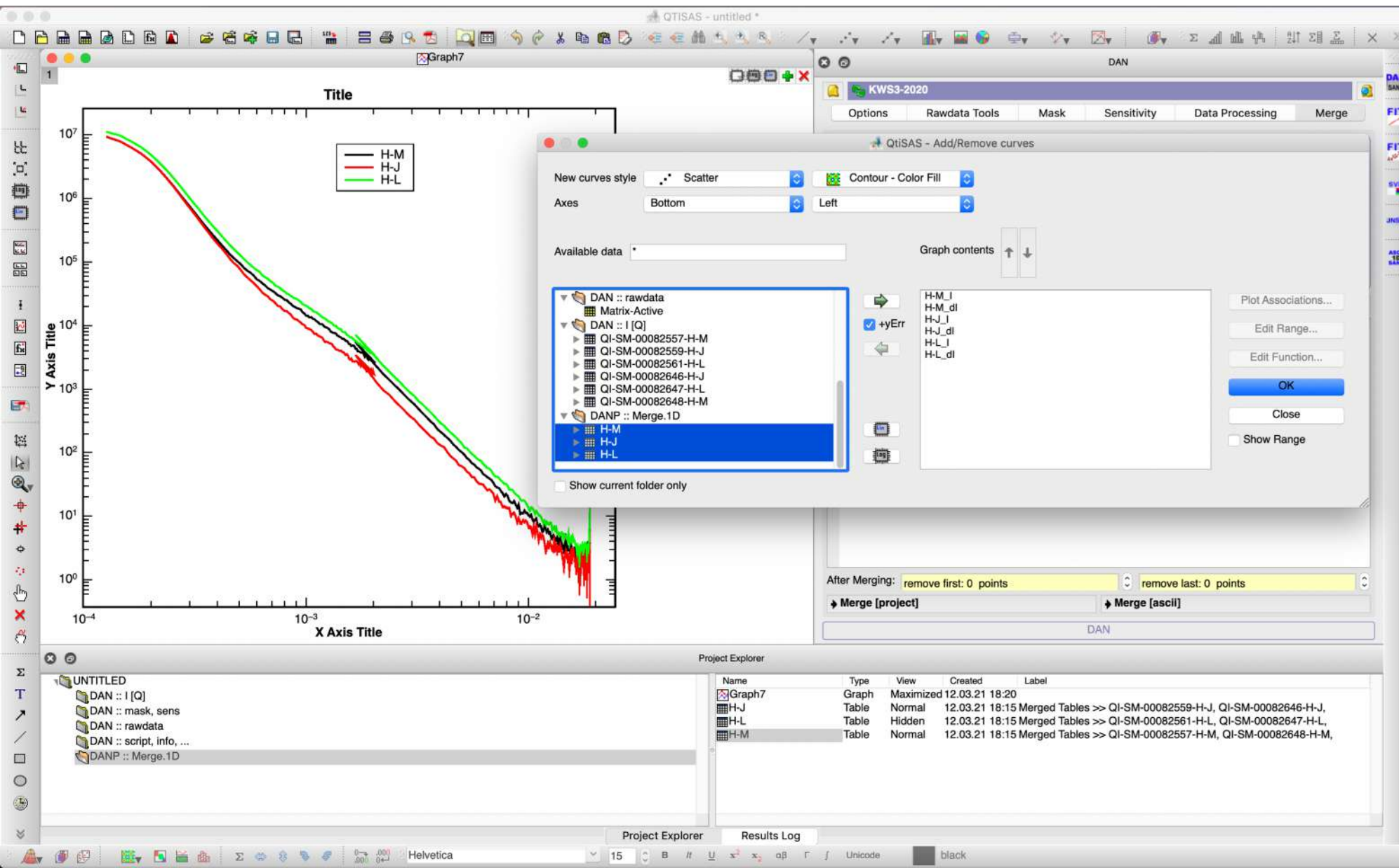
Name	Type	View	Created	Label
H-J	Table	Normal	12.03.21 18:15	Merged Tables >> QI-SM-00082559-H-J, QI-SM-00082646-H-J,
H-L	Table	Hidden	12.03.21 18:15	Merged Tables >> QI-SM-00082561-H-L, QI-SM-00082647-H-L,
H-M	Table	Maximized	12.03.21 18:15	Merged Tables >> QI-SM-00082557-H-M, QI-SM-00082648-H-M,

Project Explorer Results Log

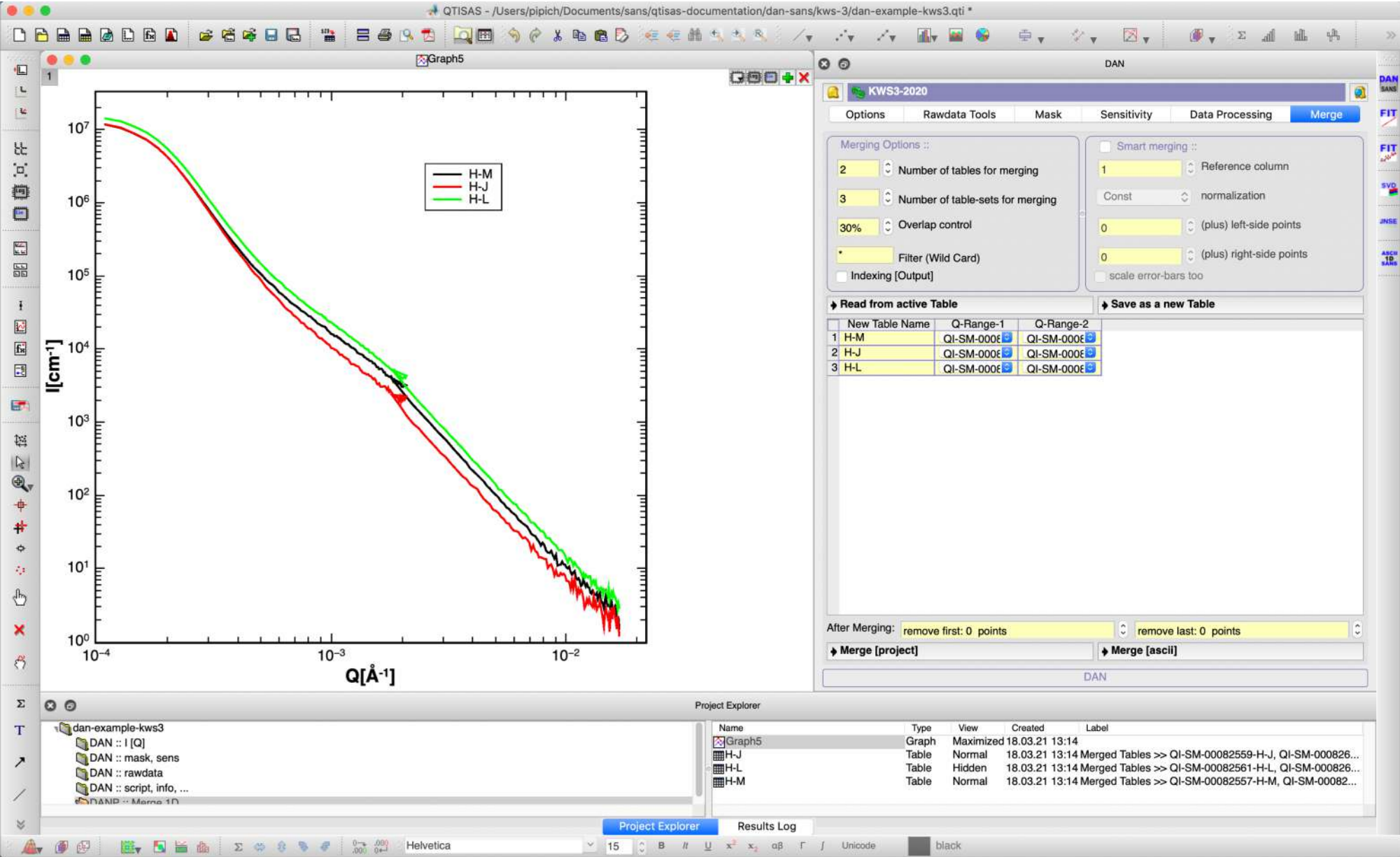
Helvetica 15 B It U x² x₂ αβ Γ f Unicode







Plotting example: result



STEP 11: Reduced Detector Images

1. **Selected:** “script” table
2. **Selected:** as tables/matrixes in the current project (“>>Project”)
3. **Pushed:** $I[x,y]$ for radial averaging;

The figure displays six subplots arranged in a 2x3 grid, each showing simulation results for a different model and parameter set. Each subplot contains a table with 11 rows and 2 columns. The columns are labeled 1 and 2. The rows are labeled 1 to 11. The data values are in scientific notation, ranging from 0.00000000E+00 to 0.00000000E+00. The subplots are titled: -SM-00082648-H-M - H-M, -SM-00082647-H-L - H-L, -SM-00082646-H-J - H-J, -SM-00082561-H-L - H-L, -SM-00082559-H-J - H-J, and -SM-00082557-H-M - H-M.

	1	2
1	0.00000000E+00	0.00000000E+00
2	0.00000000E+00	0.00000000E+00
3	0.00000000E+00	0.00000000E+00
4	0.00000000E+00	0.00000000E+00
5	0.00000000E+00	0.00000000E+00
6	0.00000000E+00	0.00000000E+00
7	0.00000000E+00	0.00000000E+00
8	0.00000000E+00	0.00000000E+00
9	0.00000000E+00	0.00000000E+00
10	0.00000000E+00	0.00000000E+00
11	0.00000000E+00	0.00000000E+00

	1	2
1	0.00000000E+00	0.00000000E+00
2	0.00000000E+00	0.00000000E+00
3	0.00000000E+00	0.00000000E+00
4	0.00000000E+00	0.00000000E+00
5	0.00000000E+00	0.00000000E+00
6	0.00000000E+00	0.00000000E+00
7	0.00000000E+00	0.00000000E+00
8	0.00000000E+00	0.00000000E+00
9	0.00000000E+00	0.00000000E+00
10	0.00000000E+00	0.00000000E+00
11	0.00000000E+00	0.00000000E+00

	1	2
1	0.00000000E+00	0.00000000E+00
2	0.00000000E+00	0.00000000E+00
3	0.00000000E+00	0.00000000E+00
4	0.00000000E+00	0.00000000E+00
5	0.00000000E+00	0.00000000E+00
6	0.00000000E+00	0.00000000E+00
7	0.00000000E+00	0.00000000E+00
8	0.00000000E+00	0.00000000E+00
9	0.00000000E+00	0.00000000E+00
10	0.00000000E+00	0.00000000E+00
11	0.00000000E+00	0.00000000E+00

	1	2
1	0.00000000E+00	0.00000000E+00
2	0.00000000E+00	0.00000000E+00
3	0.00000000E+00	0.00000000E+00
4	0.00000000E+00	0.00000000E+00
5	0.00000000E+00	0.00000000E+00
6	0.00000000E+00	0.00000000E+00
7	0.00000000E+00	0.00000000E+00
8	0.00000000E+00	0.00000000E+00
9	0.00000000E+00	0.00000000E+00
10	0.00000000E+00	0.00000000E+00
11	0.00000000E+00	0.00000000E+00

	1	2
1	0.00000000E+00	0.00000000E+00
2	0.00000000E+00	0.00000000E+00
3	0.00000000E+00	0.00000000E+00
4	0.00000000E+00	0.00000000E+00
5	0.00000000E+00	0.00000000E+00
6	0.00000000E+00	0.00000000E+00
7	0.00000000E+00	0.00000000E+00
8	0.00000000E+00	0.00000000E+00
9	0.00000000E+00	0.00000000E+00
10	0.00000000E+00	0.00000000E+00
11	0.00000000E+00	0.00000000E+00

	1	2
1	0.00000000E+00	0.00000000E+00
2	0.00000000E+00	0.00000000E+00
3	0.00000000E+00	0.00000000E+00
4	0.00000000E+00	0.00000000E+00
5	0.00000000E+00	0.00000000E+00
6	0.00000000E+00	0.00000000E+00
7	0.00000000E+00	0.00000000E+00
8	0.00000000E+00	0.00000000E+00
9	0.00000000E+00	0.00000000E+00
10	0.00000000E+00	0.00000000E+00
11	0.00000000E+00	0.00000000E+00

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FSIEB][m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FSIAtt]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask. Matrix	mask-bs-9m	mask-bs-1m
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Script-Table Tools

script New Add Tr

Process active Script-Table

I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Qz, ψ] I [Qx] σ [x,y] dQ [x,y]

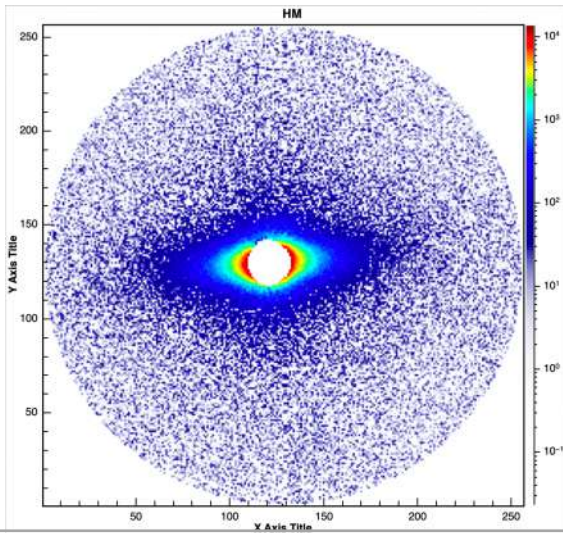
Options :: Data Processing

DAN

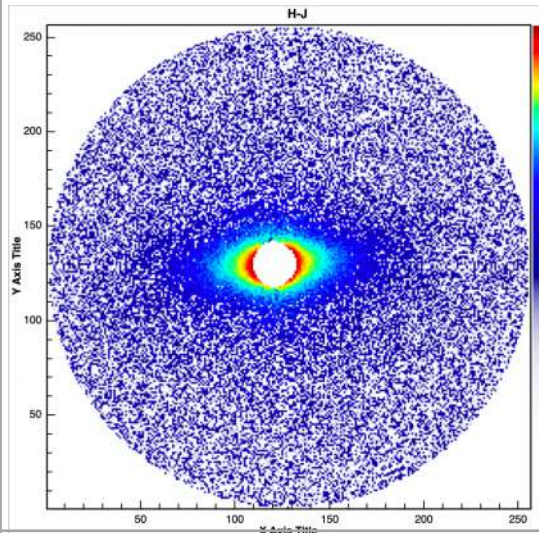
The screenshot shows a software interface with two main panels. The left panel, titled 'Project Explorer', displays a tree view of project files. The file 'DAN :: I [x,y]' is selected and highlighted. The right panel, titled 'Results Log', displays a table of results. The table has five columns: 'Name', 'Type', 'View', 'Created', and 'Label'. It contains six rows of data, all of which are 'Matrix' type and 'Normal' view, created on '18.03.21 13:23'.

Name	Type	View	Created	Label
I-SM-00082557-H-M	Matrix	Normal	18.03.21 13:23	H-M
I-SM-00082559-H-J	Matrix	Normal	18.03.21 13:23	H-J
I-SM-00082561-H-L	Matrix	Normal	18.03.21 13:23	H-L
I-SM-00082646-H-J	Matrix	Normal	18.03.21 13:23	H-J
I-SM-00082647-H-L	Matrix	Normal	18.03.21 13:23	H-L

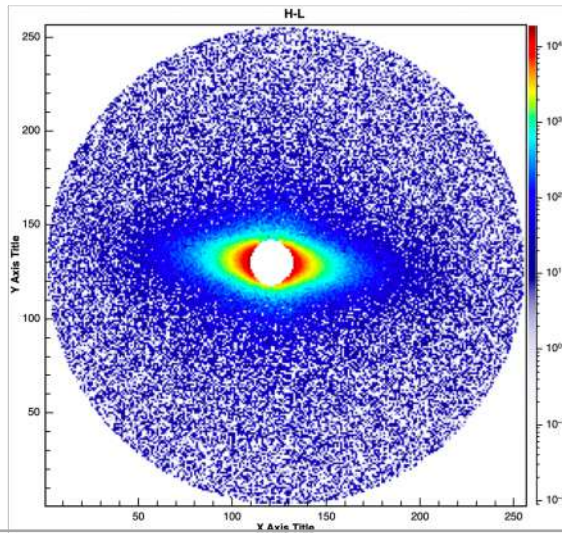
H-M



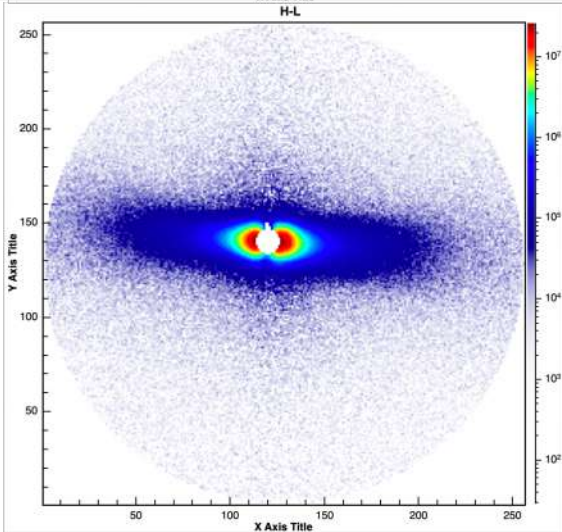
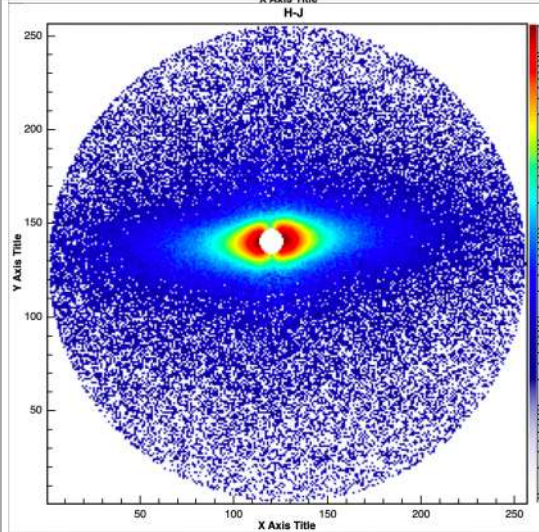
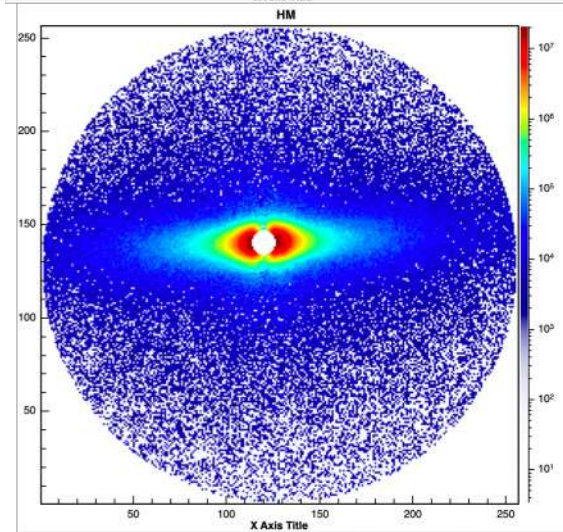
H-J



H-L



D1.2m



D9.2m

The same SCALE for all matrixes

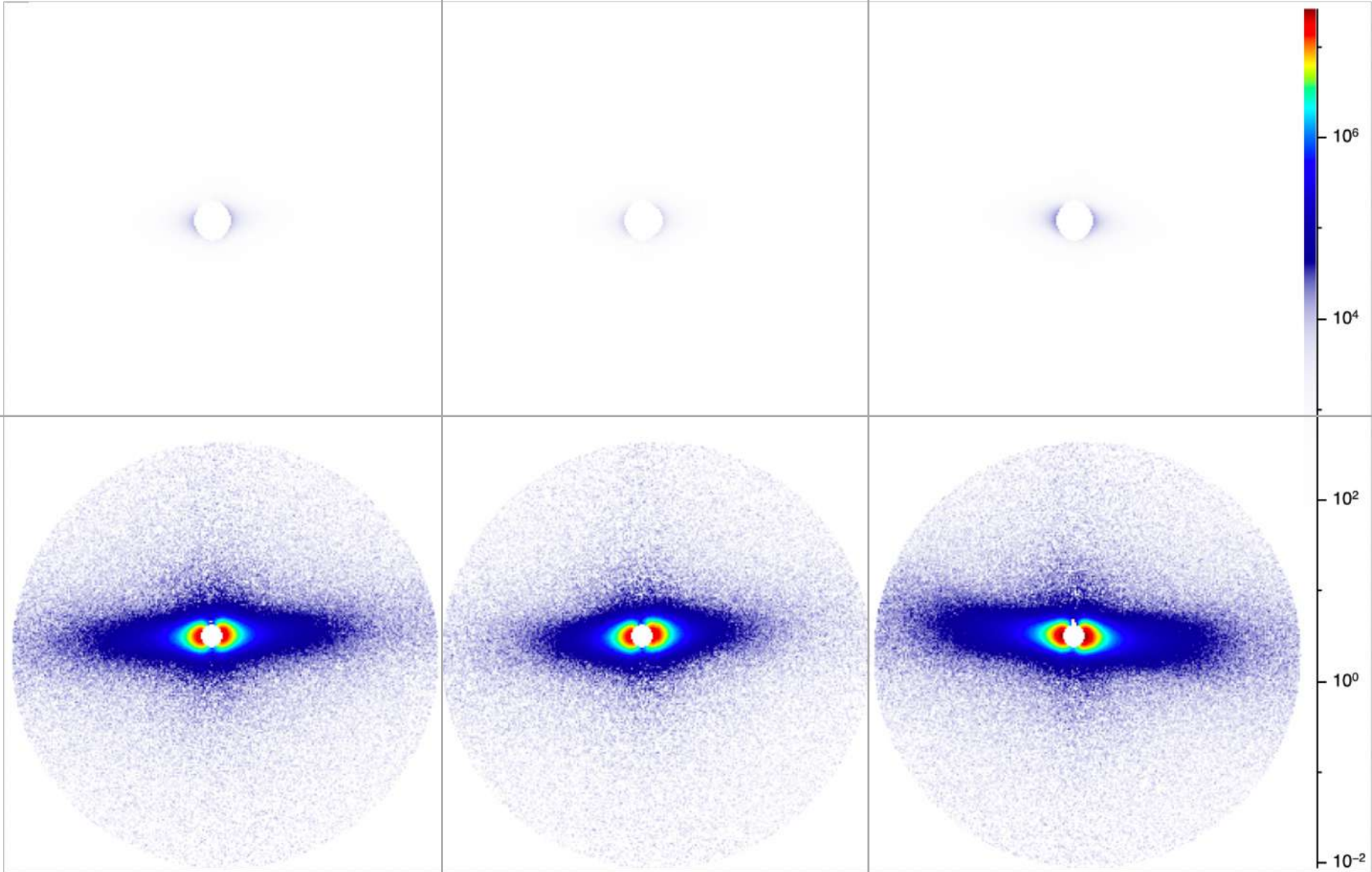
H-M

H-J

H-L

D1.2m

D9.2m





Options

Rawdata Tools

Mask

Sensitivity

Data Processing

Merge

Table of Configurations :: Data Processing



	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2 20x20	2x2 6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FS EB][m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FS Att]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask. Matrix	mask-bs-9m	mask-bs-1m
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	1.0000	1.0000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Script-Table Tools

script



New



Add



Tr



Process active Script-Table

! [x,y]

I [Qy]

1 [Q]

dl [x,y]

 $Q[x,y]$  >>File

☐ >>Project

 $\vdash [Q, \Phi]$

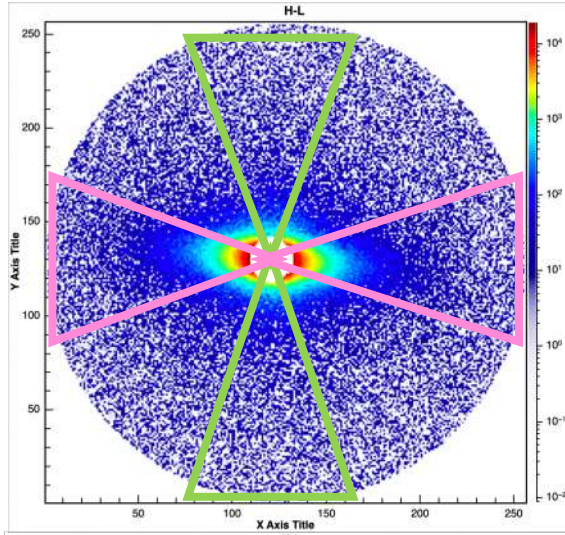
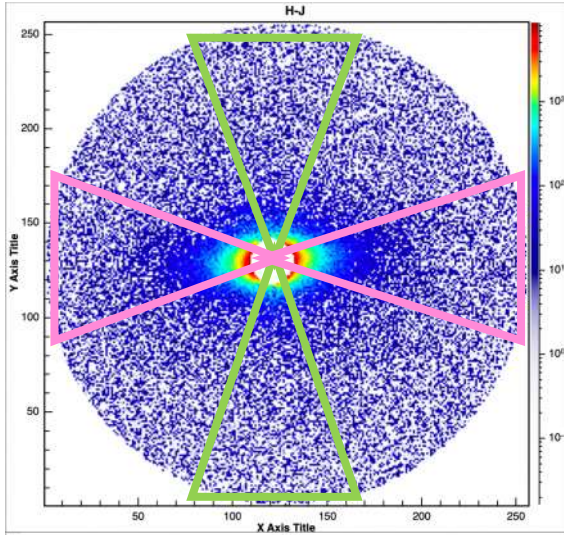
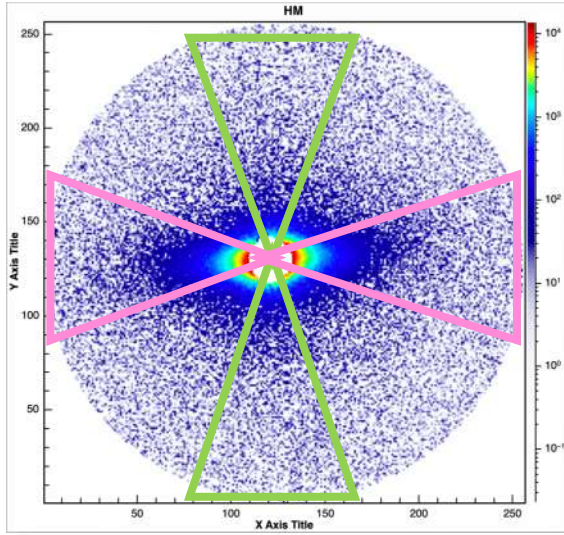
I [Qx]

 $\sigma [x,y]$ $dQ[x,v]$

Options :: Data Processing

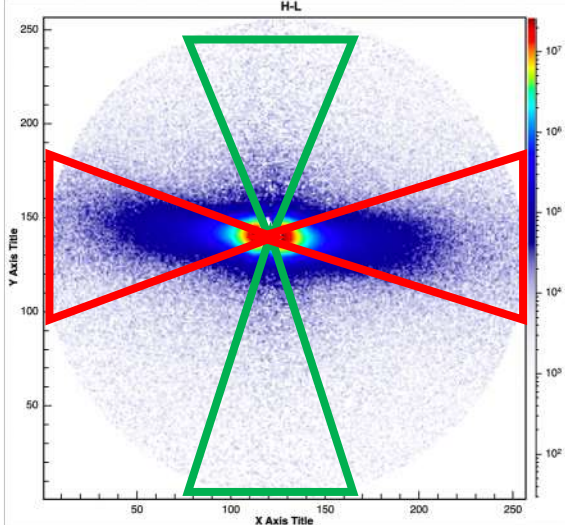
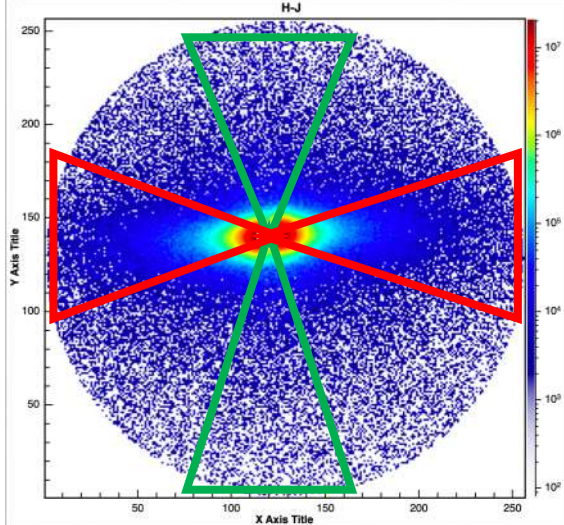
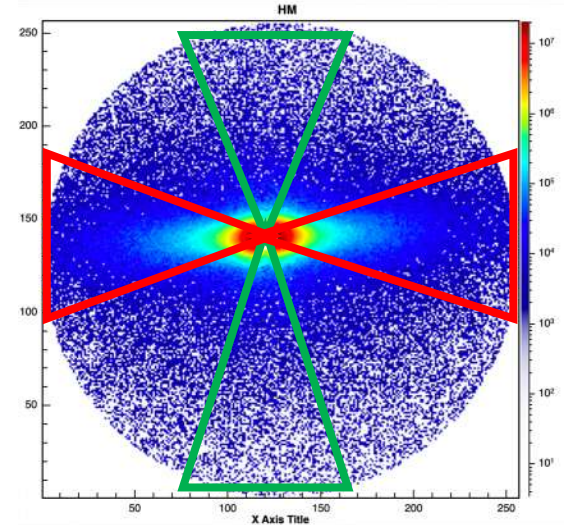
DAN

Problem: scattering is not ISOTROPIC



mask-bs-1m-vertical

mask-bs-1m-horizontal

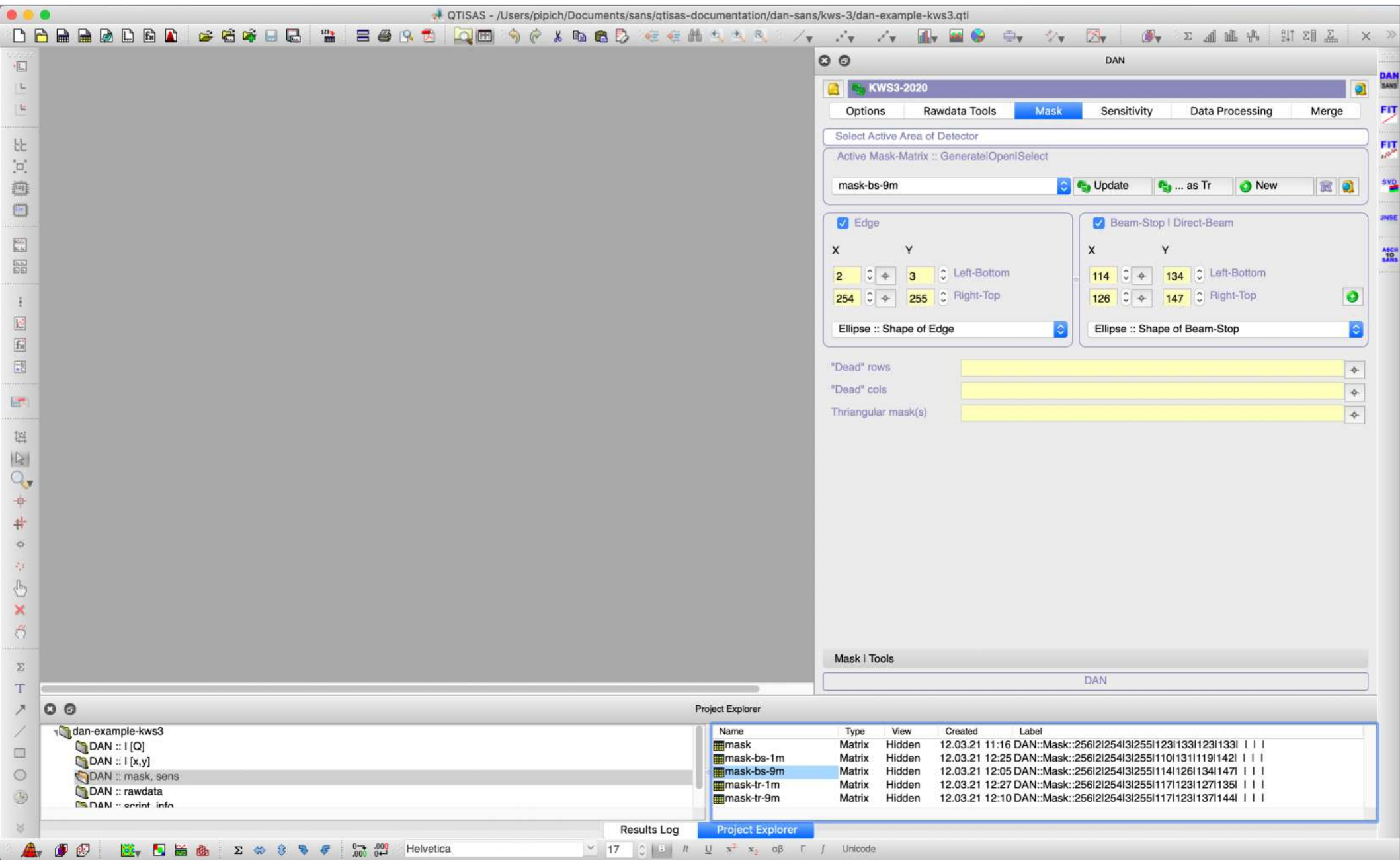


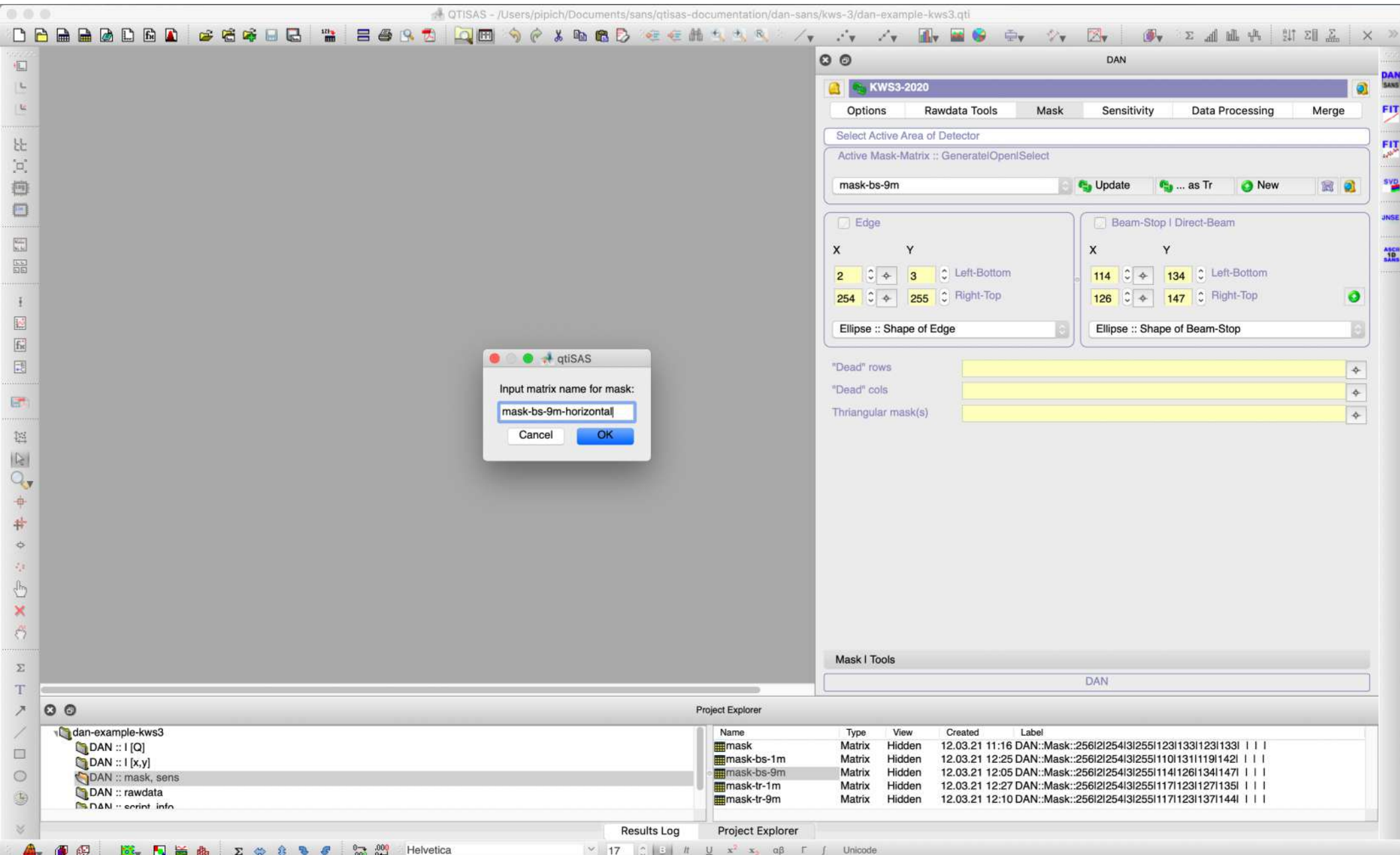
mask-bs-9m-vertical

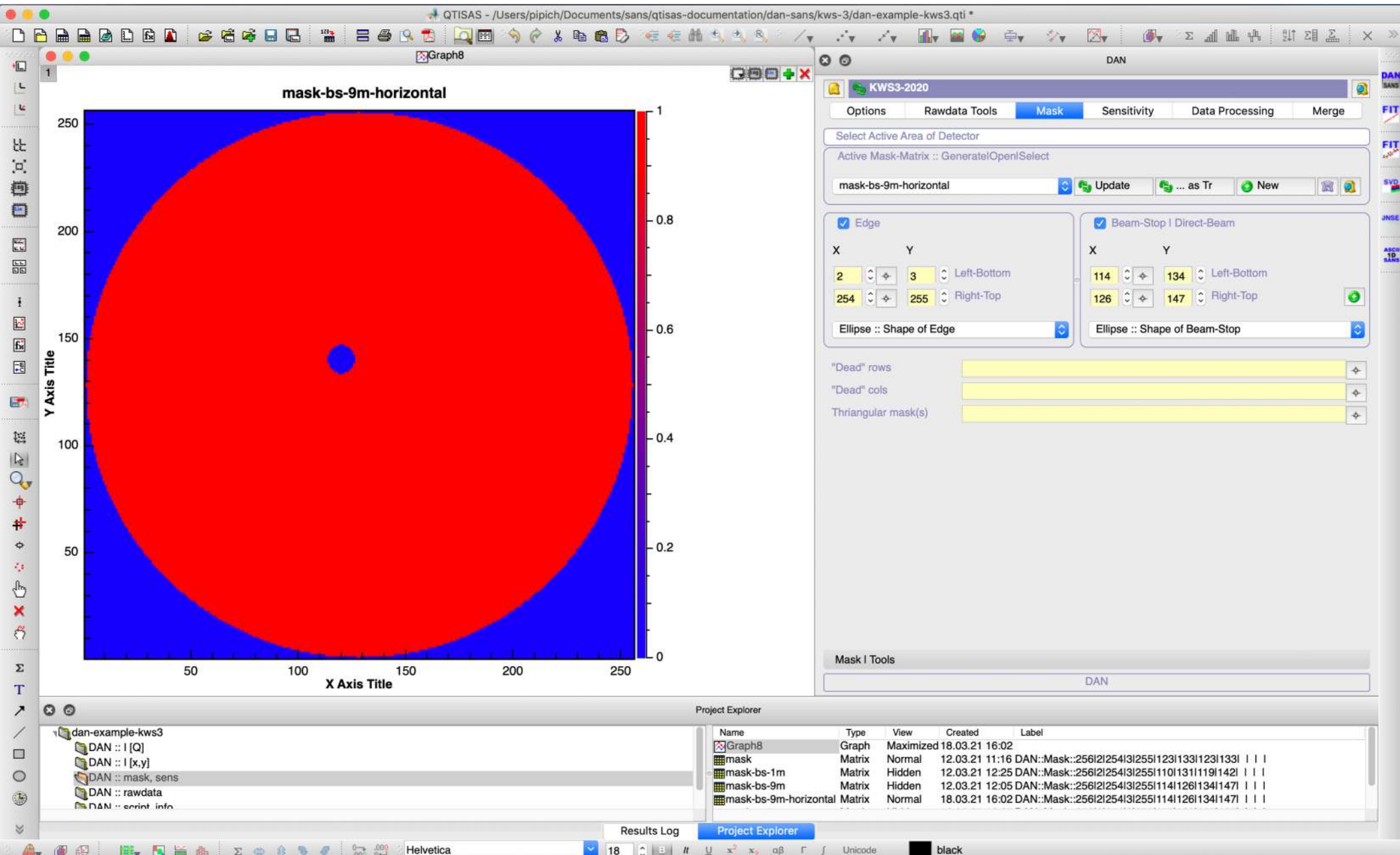
mask-bs-9m-horizontal

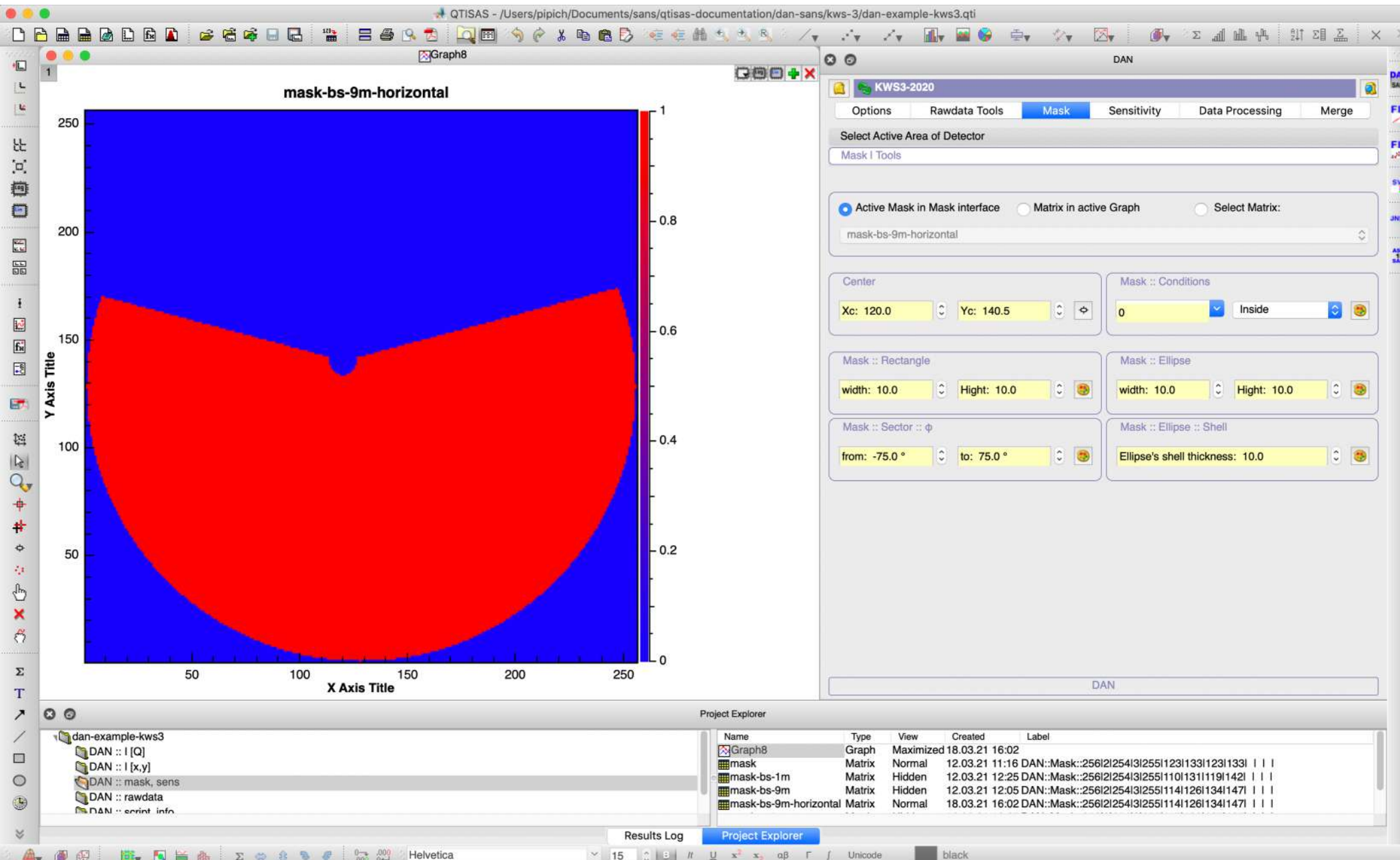
We need **Vertical & Horizontal** Masks for 2 configurations (9.2m and 1.2m) !

mask-bs-9m-horizontal

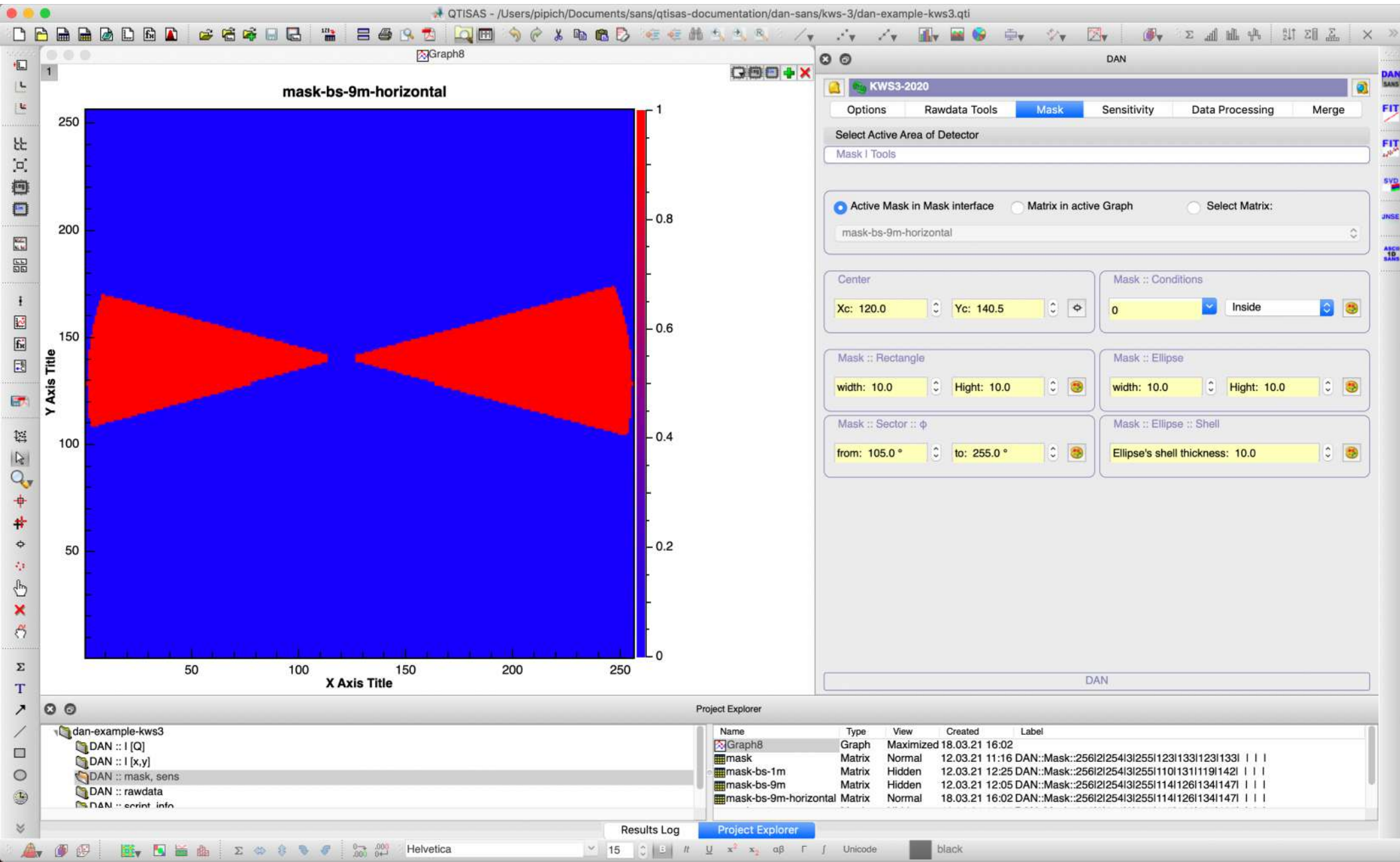




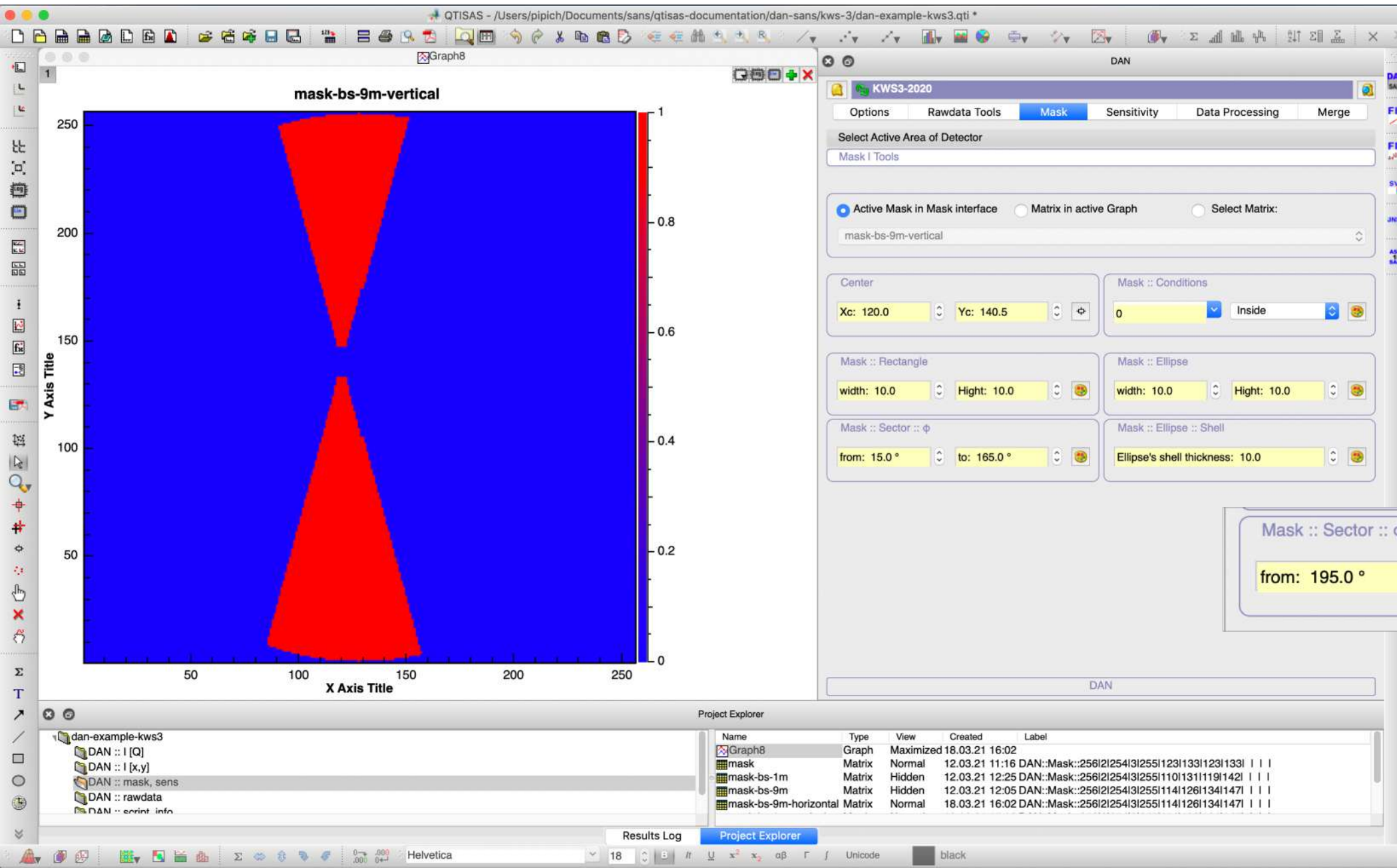




mask-bs-9m-horizontal



mask-bs-9m-vertical

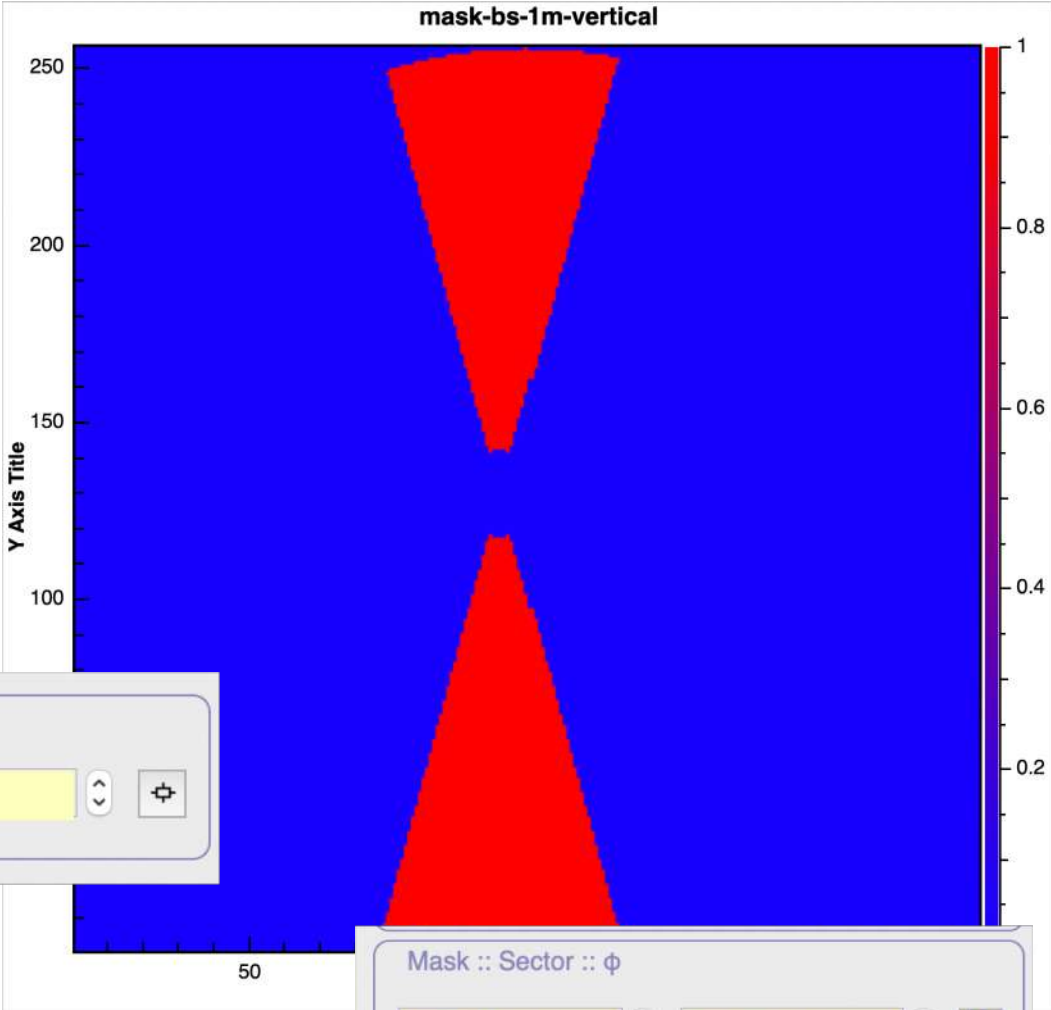
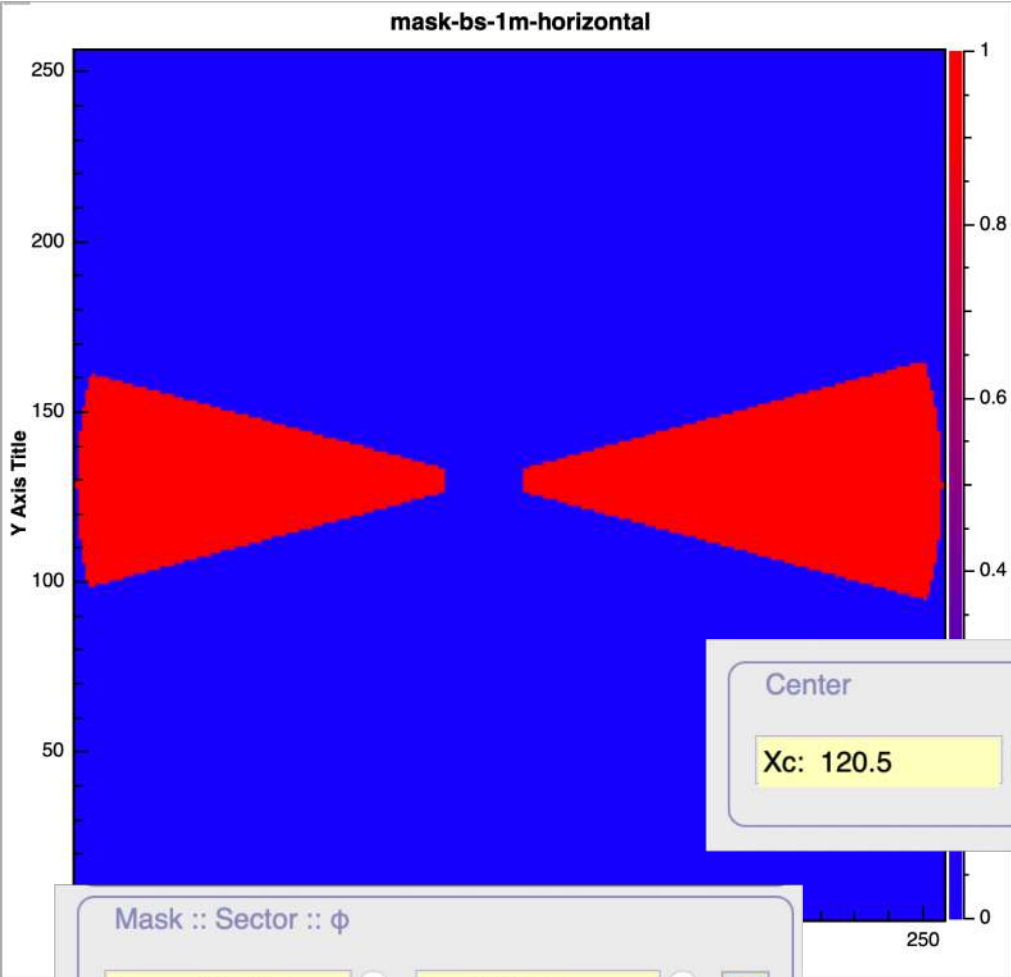


Mask :: Sector :: ϕ

from: 195.0 ° to: 345.0 °

mask-bs-1m-horizontal

mask-bs-1m-vertical



Script-Table Modification: adding the same datasets with horizontal and vertical masks

Mask. Matrix	mask-bs-9m-horizontal	mask-bs-1m-horizontal
Sens. Matrix	sens	sens

QTISAS - /Users/pipich/Documents/sans/qtisas-documentation/dan-sans/kws-3/dan-example-kws3.qti *

script - DAN::Script::Table

Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness	Transmission-Sa
1 H-M	00082557	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1	0.5380 [±0.0007
2 H-J	00082559	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1	0.5471 [±0.0007
3 H-L	00082561	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1	0.4829 [±0.0006

data

Search

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- qtisas3
- qtisAS
- sciebo
- doc
- sans
- kws1
- kws2
- kws3
- iCloud
- iCloud Drive

Name

Date Modified

Size

00000001_0000_sensitivity_HRD_standard.det

00000001_0000_sensitivity_HRD_standard.yaml

00000002_0000_b4c_HRD_standard.det

00000002_0000_b4c_HRD_standard.yaml

00082557_0000_H-M_HRD_standard.det

00082557_0000_H-M_HRD_standard.yaml

00082558_0000_EB_HRD_standard.det

00082558_0000_EB_HRD_standard.yaml

00082559_0000_H-J_HRD_standard.det

00082559_0000_H-J_HRD_standard.yaml

00082561_0000_H-L_HRD_standard.det

00082561_0000_H-L_HRD_standard.yaml

00082645_0000_EB_HRD_standard.det

00082645_0000_EB_HRD_standard.yaml

00082646_0000_H-J_HRD_standard.det

00082646_0000_H-J_HRD_standard.yaml

00082647_0000_H-L_HRD_standard.det

00082647_0000_H-L_HRD_standard.yaml

00082648_0000_H-M_HRD_standard.det

00082648_0000_H-M_HRD_standard.yaml

Cancel

Open

DAN

KWS3-2020

Options

Rawdata Tools

Mask

Sensitivity

Data Processing

Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ[Å]	12.787	12.787
Beam Size	2x2l20x20	2x2l6.5x8
Abs.Cal. [#FS]		
Abs.Cal. [#EB]	00082558	00082645
Abs.Cal. [#BC]	00000002	00000002
D-[FSIEB][m]	9.200	1.200
μ-[FS]	1.0000E+00	1.0000E+00
Tr-[FSIAtt]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask. Matrix	mask-bs-9m-horizontal	mask-bs-1m-horizontal
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	1.0000	1.0000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Script-Table Tools

script

Process active Script-Table

I [x,y] I [Qy] I [Q] dl [x,y] Q [x,y] >>File >>Project

I [Q,φ] I [Qx] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

Project Explorer

Name	Type	View	Created	Label
info-table	Table	Normal	12.03.21 02:18	Info::Table
script	Table	Maximized	12.03.21 17:47	DAN::Script::Table
script-mergingTemplate	Table	Normal	18.03.21 13:23	DAN::Merging::Template
script-Settings	Table	Normal	12.03.21 17:47	DAN::Settings::Table

Results Log

Project Explorer

18

Helvetica

Unicode

Sample Names: added suffix “-horizontal”

script - DAN::Script::Table

	Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness	T
1	H-M	00082557	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1	
2	H-J	00082559	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1	
3	H-L	00082561	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1	
4	H-J	00082646	2	10	1.2	12.787	2x2l6.5x8	00000002	00082645	0.1	
5	H-L	00082647	2	10	1.2	12.787	2x2l6.5x8	00000002	00082645	0.1	
6	H-L	00082648	2	10	1.2	12.787	2x2l6.5x8	00000002	00082645	0.1	
7	H-M-horizontal	00082557	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100	
8	H-J-horizontal	00082559	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100	
9	H-L-horizontal	00082561	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100	
10	H-J-horizontal	00082646	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100	
11	H-L-horizontal	00082647	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100	
12	H-M-horizontal	00082648	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100	

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ[Å]	12.787	12.787
Beam Size	2x2l20x20	2x2l6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FS EB][m]	9.200	1.200
μ-[FS]	1.0000E+00	1.0000E+00
Tr-[FS Att]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask. Matrix	mask-bs-9m-horizontal	mask-bs-1m-horizontal
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Script-Table Tools

script

NewAddTr

Process active Script-Table

I [x,y]

I [Qy]

I [Q]

dI [x,y]

Q [x,y]

>>File

>>Project

I [Q,φ]

I [Qx]

σ [x,y]

dQ [x,y]

Options :: Data Processing

DAN

Project Explorer

Name	Type	View	Created	Label
info-table	Table	Normal	12.03.21 02:18	Info::Table
script	Table	Maximized	12.03.21 17:47	DAN::Script::Table
script-mergingTemplate	Table	Normal	18.03.21 13:23	DAN::Merging::Template
script-Settings	Table	Normal	12.03.21 17:47	DAN::Settings::Table

Results LogProject Explorer

DAN :: I [x,y]

DAN :: mask, sens

DAN :: rawdata

DAN :: script, info, ...

DANP :: Merge.1D

Sample Names: added suffix "-vertical"

Mask. Matrix

mask-bs-9m-vertical

mask-bs-1m-vertical

QTISAS - /Users/pipich/Documents/sans/qtisas-documentation/dan-sans/kws-3/dan-example-kws3.qti *

script - DAN::Script::Table

Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness
1 H-M	00082557	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1
2 H-J	00082559	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1
3 H-L	00082561	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1
4 H-J	00082646	2	10	1.2	12.787	2x2l6.5x8	00000002	00082645	0.1
5 H-L	00082647	2	10	1.2	12.787	2x2l6.5x8	00000002	00082645	0.1
6 H-M	00082648	2	10	1.2	12.787	2x2l6.5x8	00000002	00082645	0.1
7									
8 H-M-horizontal	00082557	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100
9 H-J-horizontal	00082559	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100
10 H-L-horizontal	00082561	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100
11 H-J-horizontal	00082646	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100
12 H-L-horizontal	00082647	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100
13 H-M-vertical	00082648	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100
14									
15 H-M-vertical	00082557	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100
16 H-J-vertical	00082559	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100
17 H-L-vertical	00082561	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100
18 H-J-vertical	00082646	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100
19 H-L-vertical	00082647	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100
20 H-M-vertical	00082648	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2l20x20	2x2l6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FS]EB[m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FS]Att	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	119.951±0.000	119.951±0.000
Mask. Matrix	mask-bs-9m-vertical	mask-bs-1m-vertical
#-EB		
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask-tr-9m	mask-tr-1m

Script-Table Tools

script New Add Tr

Process active Script-Table

I [x,y]	I [Qy]	I [Q]	dI [x,y]	Q [x,y]	>>File	>>Project
I [Q,φ]	I [Qx]	I [Q]	σ [x,y]	dQ [x,y]		

Options :: Data Processing

DAN

Project Explorer

Name	Type	View	Created	Label
info-table	Table	Normal	12.03.21 02:18	Info::Table
script	Table	Maximized	12.03.21 17:47	DAN::Script::Table
script-mergingTemplate	Table	Normal	18.03.21 13:23	DAN::Merging::Template
script-Settings	Table	Normal	12.03.21 17:47	DAN::Settings::Table

Results Log Project Explorer

Helvetica 18

Unicode

Modified "script" table

script - DAN::Script::Table																
	Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness	Transmission-Sample	Factor	X-center[Y]	Y-center[Y]	Mask	Sens
1	H-M	00082557	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1	0.5380 [±0.0007]	280100	120.04	140.66	mask-bs-9m	sens
2	H-J	00082559	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1	0.5471 [±0.0007]	280100	120.04	140.66	mask-bs-9m	sens
3	H-L	00082561	1	10	9.2	12.787	2x2l20x20	00000002	00082558	0.1	0.4829 [±0.0006]	280100	120.04	140.66	mask-bs-9m	sens
4	H-J	00082646	2	10	1.2	12.787	2x2l6.5x8	00000002	00082645	0.1	0.8232 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens
5	H-L	00082647	2	10	1.2	12.787	2x2l6.5x8	00000002	00082645	0.1	0.7811 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens
6	H-M	00082648	2	10	1.2	12.787	2x2l6.5x8	00000002	00082645	0.1	0.8088 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m	sens
7																
8	H-M-horizontal	00082557	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100	0.5380 [±0.0007]	280100	120.04	140.66	mask-bs-9m-horizontal	sens
9	H-J-horizontal	00082559	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100	0.5471 [±0.0007]	280100	120.04	140.66	mask-bs-9m-horizontal	sens
10	H-L-horizontal	00082561	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100	0.4829 [±0.0006]	280100	120.04	140.66	mask-bs-9m-horizontal	sens
11	H-J-horizontal	00082646	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100	0.8232 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m-horizontal	sens
12	H-L-horizontal	00082647	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100	0.7811 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m-horizontal	sens
13	H-M-horizontal	00082648	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100	0.8088 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m-horizontal	sens
14																
15	H-M-vertical	00082557	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100	0.5380 [±0.0007]	280100	120.04	140.66	mask-bs-9m-vertical	sens
16	H-J-vertical	00082559	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100	0.5471 [±0.0007]	280100	120.04	140.66	mask-bs-9m-vertical	sens
17	H-L-vertical	00082561	1	10	9.200	12.787	2x2l20x20	00000002	00082558	0.100	0.4829 [±0.0006]	280100	120.04	140.66	mask-bs-9m-vertical	sens
18	H-J-vertical	00082646	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100	0.8232 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m-vertical	sens
19	H-L-vertical	00082647	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100	0.7811 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m-vertical	sens
20	H-M-vertical	00082648	2	10	1.200	12.787	2x2l6.5x8	00000002	00082645	0.100	0.8088 [±0.0005]	2816.2	119.97	130.85	mask-bs-1m-vertical	sens

STEP 9-again: Radial Averaging

1. **Selected:** “script” table
2. **Selected:** as tables/matrixes in the current project (“>>Project”)
3. **Pushed:** I[Q] for radial averaging;

Every run has 3 tables

Q[X]

1 1.08956598E-04

2 1.27116030E-04

3 1.45275462E-04

4 1.63434893E-04

5 1.81594324E-04

6 1.99753755E-04

7 2.17913184E-04

8 2.36072613E-04

9 2.54232042E-04

10 2.72391469E-04

11 2.90550896E-04

12 3.08710321E-04

13 3.26869746E-04

14 3.45029170E-04

15 3.63188593E-04

16 3.81348014E-04

17 3.99507435E-04

18 4.1766854E-04

19 4.35826272E-04

20 4.53985689E-04

21 4.72145104E-04

22 4.90304518E-04

23 5.08463930E-04

24 5.26623341E-04

25 5.44782750E-04

26 5.62942157E-04

27 5.81101563E-04

I[Y]

1 1.17169340E+07

2 1.05110122E+07

3 8.76786379E+06

4 7.25730993E+06

5 5.66264311E+06

4 2.8102757E+06

3 3.14632986E+06

2 2.29117220E+06

1 1.68073980E+06

0 1.23502164E+06

9 9.33938100E+05

8 7.17420205E+05

7 5.57421772E+05

6 4.38985610E+05

5 3.53539475E+05

4 2.89993832E+05

3 2.41802131E+05

2 2.02273163E+05

1 1.71826655E+05

0 1.45859180E+05

9 8.31840898E+04

8 7.70072844E+04

7 7.12632452E+04

6 6.07655502E+04

5 8.04169195E+04

4 7.49666344E+04

3 5.34214455E+04

2 7.10531882E-05

1 7.12506456E-05

dl[yEr]

1 7.32425696E+04

2 3.14837196E+04

3 2.23664452E+04

4 1.71959791E+04

5 1.29498742E+04

4 9.76231390E+03

3 7.36244658E+03

2 5.62388530E+03

1 4.33791373E+03

0 3.45765263E+03

9 2.82750482E+03

8 2.33399663E+03

7 1.97007886E+03

6 1.69081590E+03

5 1.47238389E+03

4 1.28031914E+03

3 1.14205168E+03

2 1.02678871E+03

1 9.1737757E+02

0 8.31840898E+02

9 7.70072844E+02

8 7.12632452E+02

7 6.07655502E+02

6 8.04169195E+02

5 7.49666344E+02

4 5.34214455E+02

3 7.10531882E-05

2 7.12506456E-05

Sigma[xEr]

1 6.80881135E-05

2 6.81306789E-05

3 6.81797598E-05

4 6.82353422E-05

5 6.82974101E-05

4 6.83659459E-05

3 6.84409302E-05

2 6.85223417E-05

1 6.86101577E-05

0 6.87043536E-05

9 6.88049031E-05

8 6.89117784E-05

7 6.90249502E-05

6 6.91443876E-05

5 6.92700581E-05

4 6.94019278E-05

3 6.95399615E-05

2 6.96841226E-05

1 6.98343731E-05

0 6.99906739E-05

9 7.01529843E-05

8 7.03212630E-05

7 7.04954670E-05

6 7.06755526E-05

5 7.08614749E-05

4 7.10531882E-05

3 7.12506456E-05

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2
#-EC [EB]	00082558	00082645
#-BC	00000002	00000002
C[m]	10	10
D[m]	9.200	1.200
λ [Å]	12.787	12.787
Beam Size	2x2l20x20	2x2l6.5x8
Abs.Cal. [#-FS]		
Abs.Cal. [#-EB]	00082558	00082645
Abs.Cal. [#-BC]	00000002	00000002
D-[FS EB][m]	9.200	1.200
μ -[FS]	1.0000E+00	1.0000E+00
Tr-[FS Att]	1.0000	1.0000
Factor	2.8010E+05	2.8162E+03
#-"Center"	00082558	00082645
X-center	120.044±0.000	119.972±0.000
Y-center	140.661±0.000	130.853±0.000
Mask. Matrix	mask-bs-9m-vertical	mask-bs-1m-vertical
Sens. Matrix	sens	sens
#-EB		
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000
Mask Matrix (Tr)	mask-tr-0m	mask-tr-1m

Script-Table Tools

script

NewAddTr

Process active Script-Table

I [x,y]

I [Qy]

dl [x,y]

Q [x,y]

>>File

>>Project

I [Q,φ]

I [Qx]

I [Q]

σ [x,y]

dQ [x,y]

Options :: Data Processing

DAN

Project Explorer

Name	Type	View	Created	Label
QI-SM-00082557-H-M	Table	Maximized	18.03.21 13:03	H-M
QI-SM-00082557-H-M-horizontal	Table	Normal	18.03.21 18:50	H-M-horizontal
QI-SM-00082557-H-M-vertical	Table	Normal	18.03.21 18:50	H-M-vertical
QI-SM-00082559-H-J	Table	Normal	18.03.21 13:03	H-J
QI-SM-00082559-H-J-horizontal	Table	Normal	18.03.21 18:50	H-J-horizontal
QI-SM-00082559-H-J-vertical	Table	Normal	18.03.21 18:50	H-J-vertical
QI-SM-00082561-H-L	Table	Normal	18.03.21 13:03	H-L

Results Log

Project Explorer

Helvetica

18

Unicode

Merging Data

script-mergingTemplate - DAN::Merging::Template

1[X]	2[Y]	3[Y]
1 H-M	QI-SM-00082557-H-M	QI-SM-00082648-H-M
2 H-J	QI-SM-00082559-H-J	QI-SM-00082646-H-J
3 H-L	QI-SM-00082561-H-L	QI-SM-00082647-H-L
4 H-M-horizontal	QI-SM-00082557-H-M-horizontal	QI-SM-00082648-H-M-horizontal
5 H-J-horizontal	QI-SM-00082559-H-J-horizontal	QI-SM-00082646-H-J-horizontal
6 H-L-horizontal	QI-SM-00082561-H-L-horizontal	QI-SM-00082647-H-L-horizontal
7 H-M-vertical	QI-SM-00082557-H-M-vertical	QI-SM-00082648-H-M-vertical
8 H-J-vertical	QI-SM-00082559-H-J-vertical	QI-SM-00082646-H-J-vertical
9 H-L-vertical	QI-SM-00082561-H-L-vertical	QI-SM-00082647-H-L-vertical

DAN

KWS3-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Merging Options ::

2Number of tables for merging

9Number of table-sets for merging

30%Overlap control

*Filter (Wild Card)

☐ Indexing [Output]

☐ Smart merging ::

1Reference column

Constnormalization

0(plus) left-side points

0(plus) right-side points

☐ scale error-bars too

Read from active Table

Save as a new Table

New Table Name	Q-Range-1	Q-Range-2
1 H-M	QI-SM-00082557-H-M	QI-SM-00082648-H-M
2 H-J	QI-SM-00082559-H-J	QI-SM-00082646-H-J
3 H-L	QI-SM-00082561-H-L	QI-SM-00082647-H-L
4 H-M-horizontal	QI-SM-00082557-H-M-horizontal	QI-SM-00082648-H-M-horizontal
5 H-J-horizontal	QI-SM-00082559-H-J-horizontal	QI-SM-00082646-H-J-horizontal
6 H-L-horizontal	QI-SM-00082561-H-L-horizontal	QI-SM-00082647-H-L-horizontal
7 H-M-vertical	QI-SM-00082557-H-M-vertical	QI-SM-00082648-H-M-vertical
8 H-J-vertical	QI-SM-00082559-H-J-vertical	QI-SM-00082646-H-J-vertical
9 H-L-vertical	QI-SM-00082561-H-L-vertical	QI-SM-00082647-H-L-vertical

After Merging: remove first: 0 points remove last: 0 points

Merge [project]

Merge [ascii]

DAN

Project Explorer

dan-example-kws3

DAN :: I [Q]

DAN :: I [x,y]

DAN :: mask, sens

DAN :: rawdata

DAN :: script, info, ...

DANP :: Merge.1D

Name	Type	View	Created	Label
info-table	Table	Normal	12.03.21 02:18	Info::Table
script	Table	Normal	12.03.21 17:47	DAN::Script::Table
script-mergingTemplate	Table	Maximized	18.03.21 18:50	DAN::Merging::Template
script-Settings	Table	Normal	12.03.21 17:47	DAN::Settings::Table

Results Log

Project Explorer

Helvetica

18

B

Unicode

Tables are ready

QTISAS - /Users/pipich/Documents/sans/qtisas-documentation/dan-sans/kws-3/dan-example-kws3.qti *

H-J - Merged Tables >> QI-SM-00082559-H-J, QI-SM-00082646-H-J

	Q[X]	I[Y]	dI[yEr]	Sigma[xEr]
1	1.089566E-04	1.179794E+07	7.293790E+04	6.808811E-05
2	1.271160E-04	1.061157E+07	3.147259E+04	6.813068E-05
3	1.452755E-04	8.792229E+06	2.220430E+04	6.817976E-05
4	1.634349E-04	7.266609E+06	1.703185E+04	6.823534E-05
5	1.815943E-04	5.687315E+06	1.283828E+04	6.829741E-05
6	1.997538E-04	4.284102E+06	9.646464E+03	6.836595E-05
7	2.179132E-04	3.138337E+06	7.268970E+03	6.844093E-05
8	2.360726E-04	2.271971E+06	5.517267E+03	6.852234E-05
9	2.542320E-04	1.654117E+06	4.237377E+03	6.861016E-05
10	2.723915E-04	1.203793E+06	3.360038E+03	6.870435E-05
11	2.905509E-04	8.894877E+05	2.713162E+03	6.880490E-05
12	3.087103E-04	6.794198E+05	2.238870E+03	6.891178E-05
13	3.268697E-04	5.241226E+05	1.885942E+03	6.902495E-05
14	3.450292E-04	4.052701E+05	1.608585E+03	6.914439E-05
15	3.631886E-04	3.218974E+05	1.393743E+03	6.927006E-05
16	3.813480E-04	2.582635E+05	1.199954E+03	6.940193E-05
17	3.995074E-04	2.135951E+05	1.068675E+03	6.953996E-05
18	4.176669E-04	1.794096E+05	9.652391E+02	6.968412E-05
19	4.358263E-04	1.513404E+05	8.601429E+02	6.983437E-05
20	4.539857E-04	1.246181E+05	7.700088E+02	6.999067E-05
21	4.721451E-04	1.071658E+05	7.091223E+02	7.015298E-05
22	4.903045E-04	9.653691E+04	6.620528E+02	7.032126E-05
23	5.084639E-04	8.259584E+04	6.021654E+02	7.049547E-05
24	5.266233E-04	7.073623E+04	5.512187E+02	7.067555E-05
25	5.447827E-04	6.317474E+04	5.118898E+02	7.086147E-05
26	5.629422E-04	5.693747E+04	4.737998E+02	7.105319E-05
27	5.811016E-04	5.177286E+04	4.477911E+02	7.125065E-05

DAN

KWS3-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Merging Options ::

2 Number of tables for merging

9 Number of table-sets for merging

30% Overlap control

* Filter (Wild Card)

☐ Indexing [Output]

Smart merging ::

1 Reference column

Const normalization

0 (plus) left-side points

0 (plus) right-side points

☐ scale error-bars too

Read from active Table Save as a new Table

New Table Name	Q-Range-1	Q-Range-2
1 H-M	QI-SM-00082557-H-M	QI-SM-00082648-H-M
2 H-J	QI-SM-00082559-H-J	QI-SM-00082646-H-J
3 H-L	QI-SM-00082561-H-L	QI-SM-00082647-H-L
4 H-M-horizontal	QI-SM-00082557-H-M-horizontal	QI-SM-00082648-H-M-horizontal
5 H-J-horizontal	QI-SM-00082559-H-J-horizontal	QI-SM-00082646-H-J-horizontal
6 H-L-horizontal	QI-SM-00082561-H-L-horizontal	QI-SM-00082647-H-L-horizontal
7 H-M-vertical	QI-SM-00082557-H-M-vertical	QI-SM-00082648-H-M-vertical
8 H-J-vertical	QI-SM-00082559-H-J-vertical	QI-SM-00082646-H-J-vertical
9 H-L-vertical	QI-SM-00082561-H-L-vertical	QI-SM-00082647-H-L-vertical

After Merging: remove first: 0 points remove last: 0 points

Merge [project] Merge [ascii]

DAN

Project Explorer

dan-example-kws3

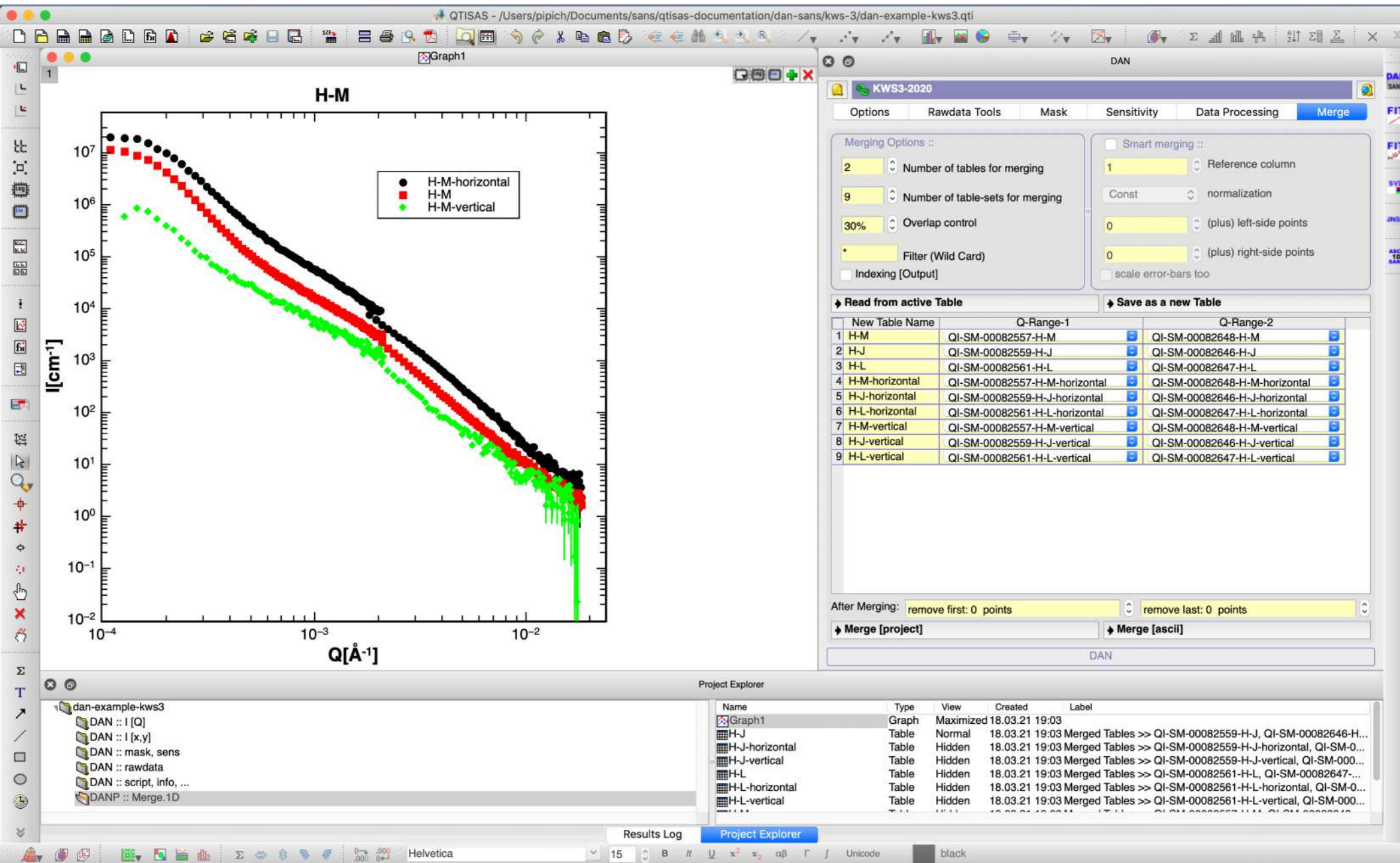
- DAN :: I [Q]
- DAN :: I [x,y]
- DAN :: mask, sens
- DAN :: rawdata
- DAN :: script, info, ...
- DANP :: Merge.1D

Name	Type	View	Created	Label
H-J	Table	Maximized	18.03.21 19:03	Merged Tables >> QI-SM-00082559-H-J, QI-SM-00082646-H...
H-J-horizontal	Table	Hidden	18.03.21 19:03	Merged Tables >> QI-SM-00082559-H-J-horizontal, QI-SM-0...
H-J-vertical	Table	Hidden	18.03.21 19:03	Merged Tables >> QI-SM-00082559-H-J-vertical, QI-SM-000...
H-L	Table	Hidden	18.03.21 19:03	Merged Tables >> QI-SM-00082561-H-L, QI-SM-00082647-...
H-L-horizontal	Table	Hidden	18.03.21 19:03	Merged Tables >> QI-SM-00082561-H-L-horizontal, QI-SM-0...
H-L-vertical	Table	Hidden	18.03.21 19:03	Merged Tables >> QI-SM-00082561-H-L-vertical, QI-SM-000...
H-M	Table	Hidden	18.03.21 19:03	Merged Tables >> QI-SM-00082557-H-M, QI-SM-00082648-...

Results Log Project Explorer

Helvetica 18

Plotting “H-M” sample averaged with 3 masks



Script - DATA_Script...Table

Factor	X-center[Y]	Y-center[Y]	Mask	Sens	Status	Tr-9m[Y]	Tr[Y]	Scale[Y]
280100	120.04	140.66	mask-bs-9m	sens	>>> sample#=000	0.538	0.538	1
280100	120.04	140.66	mask-bs-9m	sens	>>> sample#=000	0.5471	0.5471	1
280100	120.04	140.66	mask-bs-9m	sens	>>> sample#=000	0.4829	0.4829	1
2816.2						0.5471	0.8232	1.504660939499
2816.2						0.4829	0.7811	1.617519155105
2816.2						0.538	0.8088	1.503345724907
280100						0.538	0.538	1
280100						0.5471	0.5471	1
280100						0.4829	0.4829	1
2816.2						0.5471	0.8232	1.504660939499
2816.2						0.4829	0.7811	1.617519155105
2816.2						0.538	0.8088	1.503345724907
280100						0.538	0.538	1
280100						0.5471	0.5471	1
280100						0.4829	0.4829	1
2816.2						0.5471	0.8232	1.504660939499
2816.2	119.97	130.85	mask-bs-1m-vertical	sens	>>> sample#=000	0.4829	0.7811	1.617519155105
2816.2	119.97	130.85	mask-bs-1m-vertical	sens	>>> sample#=000	0.538	0.8088	1.503345724907

QtSAS - Set column values

AVG("colName", i, j):
The average of all cells from row i to j in column colName.

For row (i) 1 to 20

AVG

col("Tr-9m")

<<

>>

Add cell

Add function

Add column

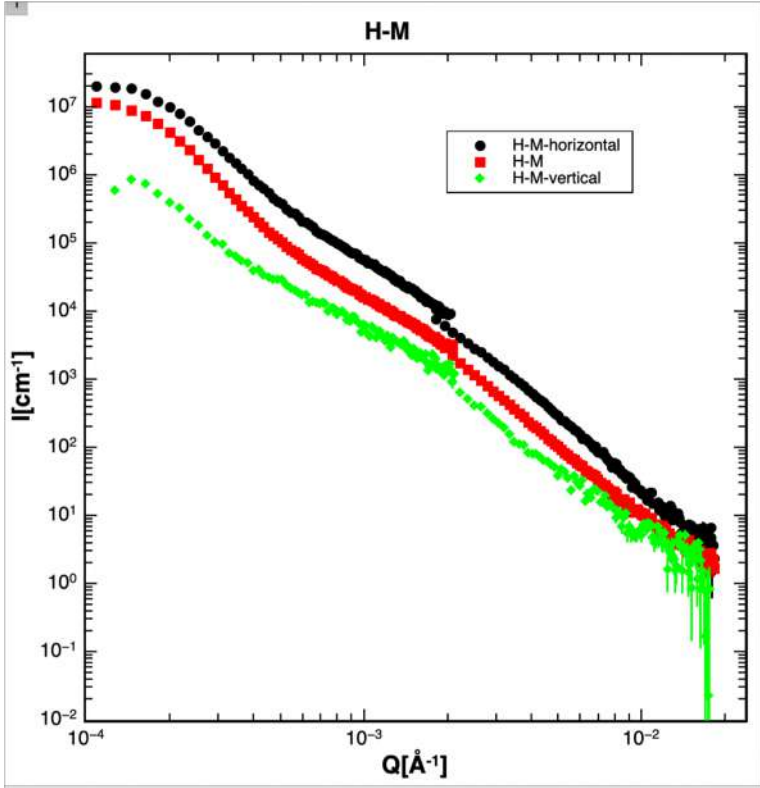
col("Scale")=

col("Tr")/col("Tr-9m")

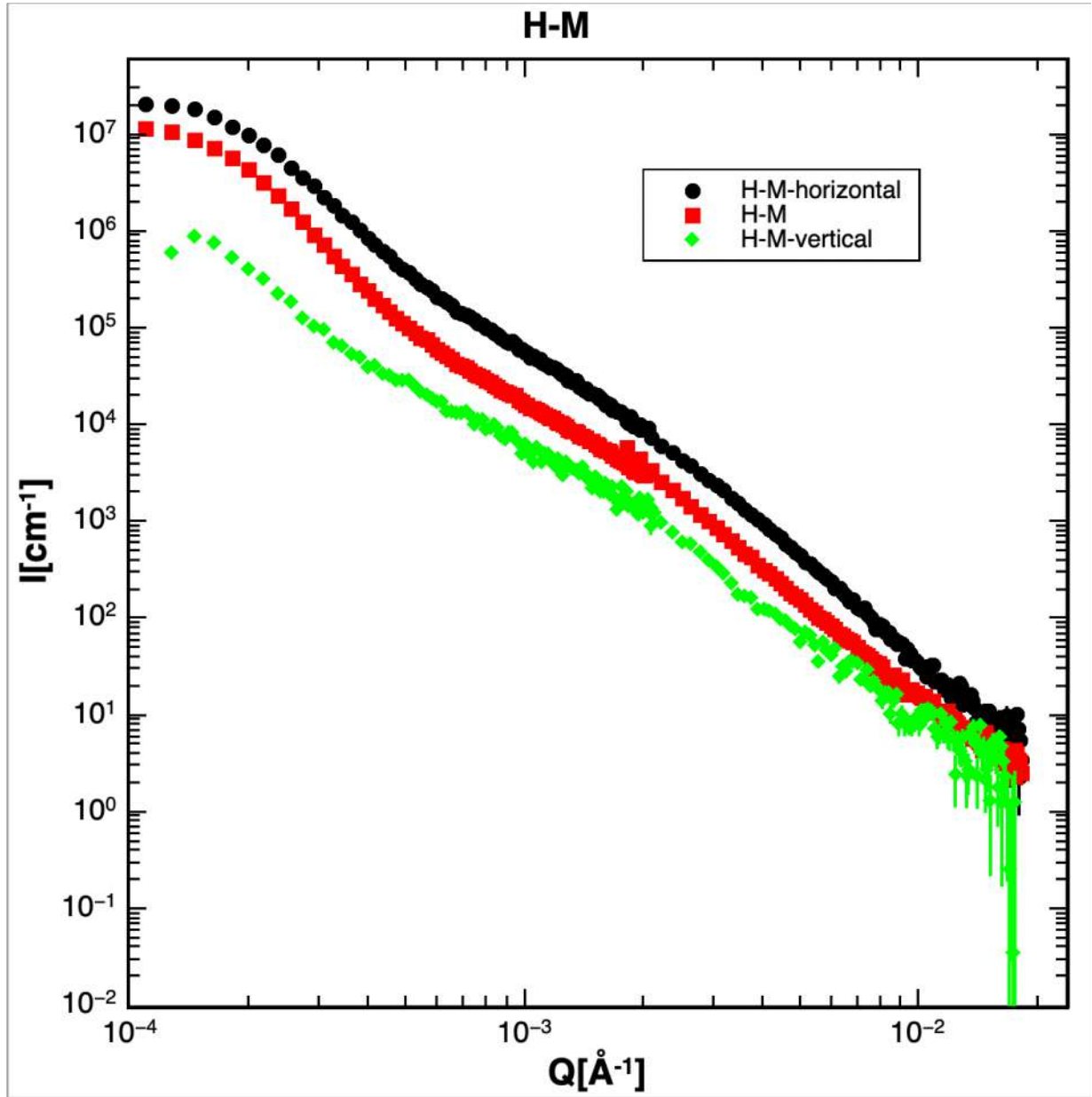
Apply

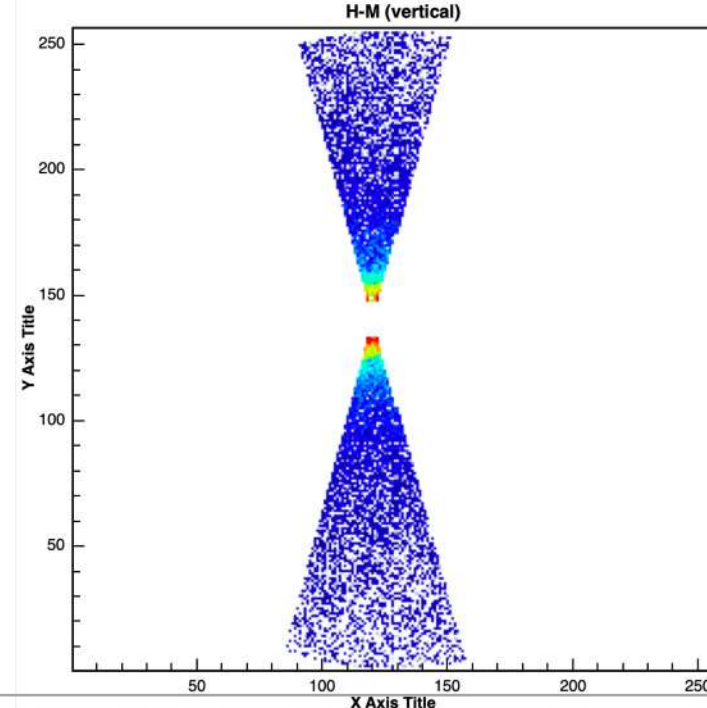
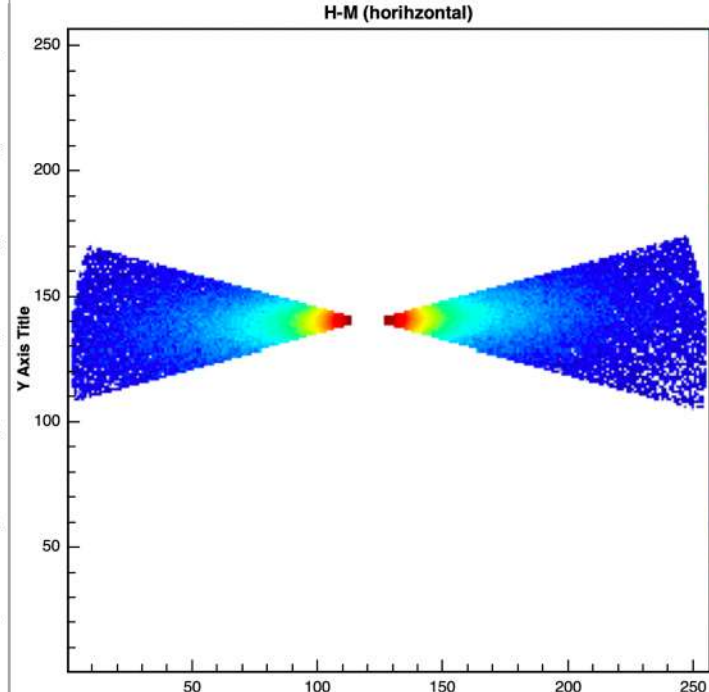
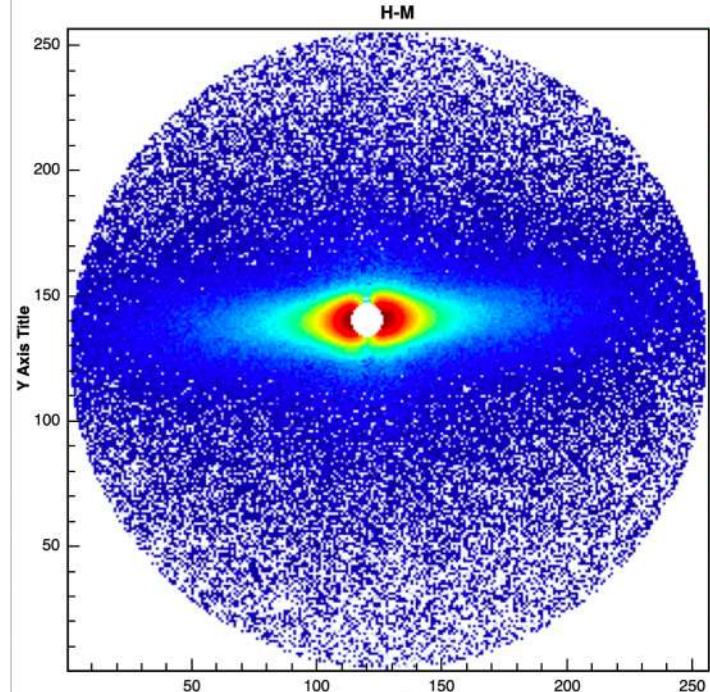
Clear Formulas

Close

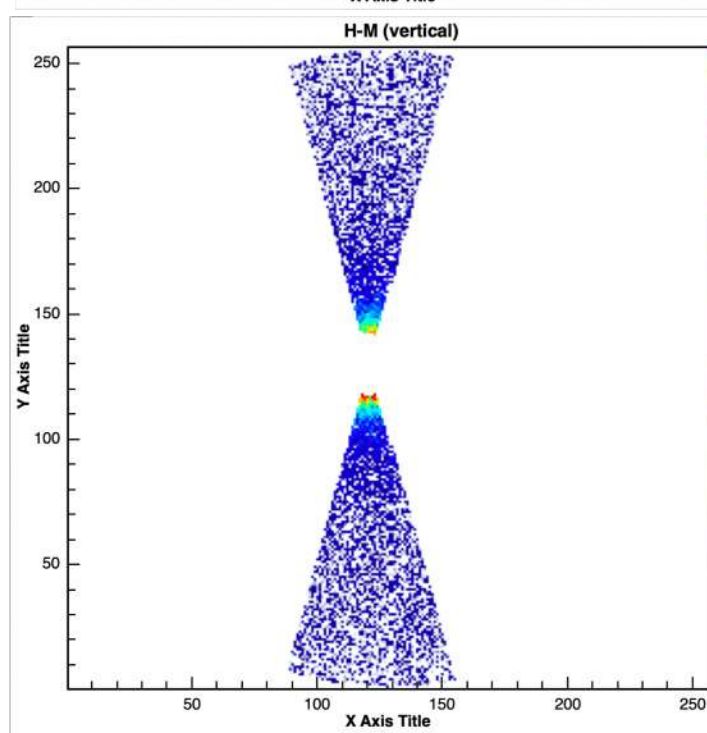
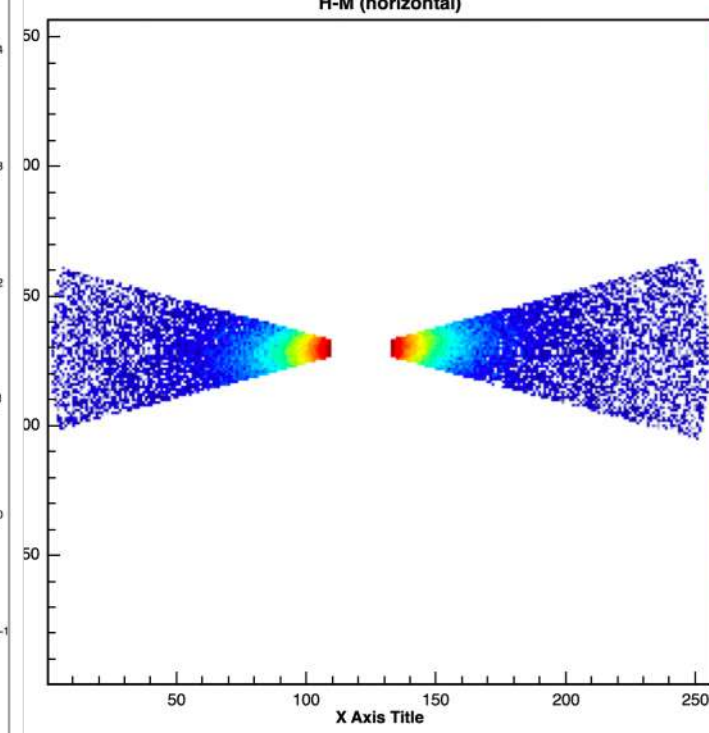
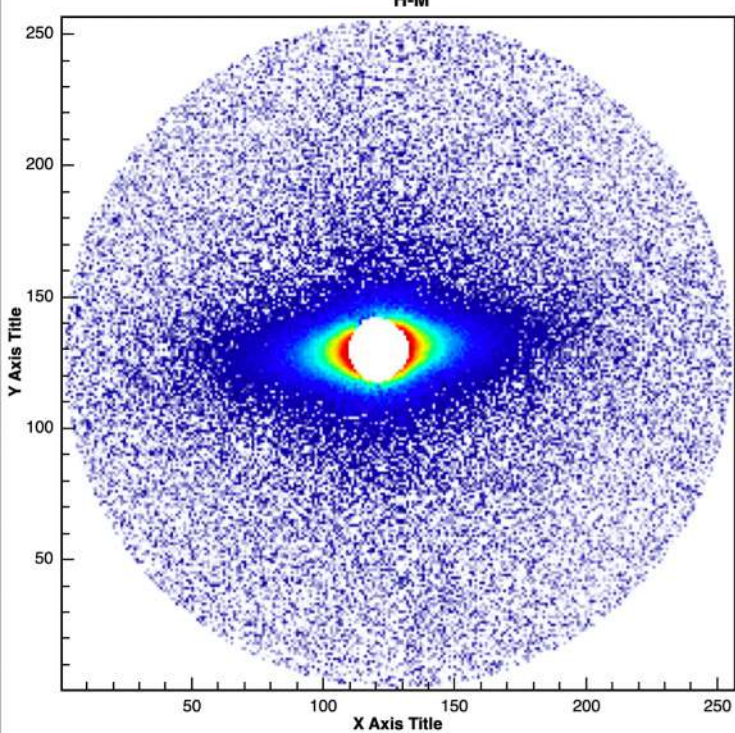


Scale[Y]		
0.538		1
0.5471		1
0.4829		1
0.8232	1.504660939499	
0.7811	1.617519155105	
0.8088	1.503345724907	
0.538		1
0.5471		1
0.4829		1
0.8232	1.504660939499	
0.7811	1.617519155105	
0.8088	1.503345724907	
0.538		1
0.5471		1
0.4829		1
0.8232	1.504660939499	
0.7811	1.617519155105	
0.8088	1.503345724907	



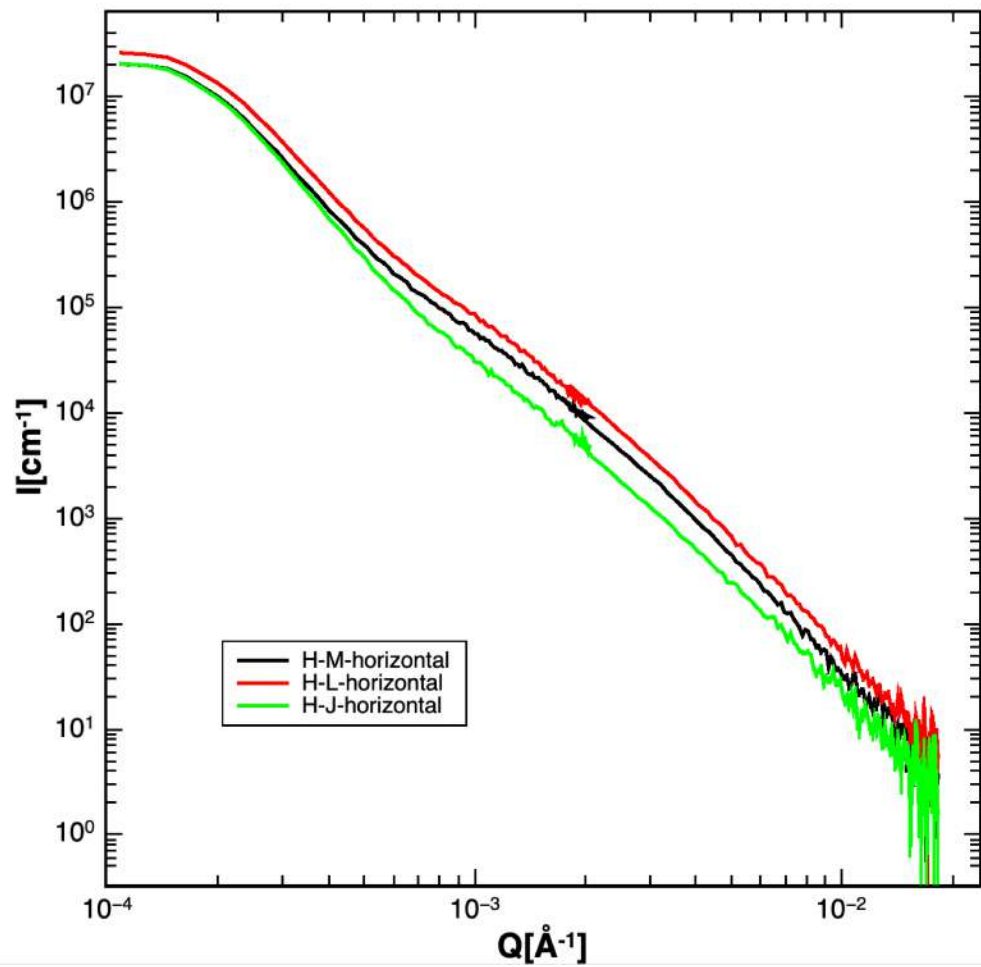


D9.2m



D1.2m

horizontal mask



vertical mask

