



QtISAS | DAN-SANS | Screenshots

2021-03-24

V. Pipich and M.-S. Appavou

DAN-SANS. Data Reduction. Example.

Instrument:	KWS-1
Date of the Experiment:	March.2020
QtISAS Version:	>01.03.2021
DAN-SANS “Instrument”:	KWS1-2020

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

U

x²

x₂

αβ

Γ

f

Unicode

DAN SANS

FIT

FIT

SVD

JNSE

ASCII 1D SANS

DAN SANS

FIT

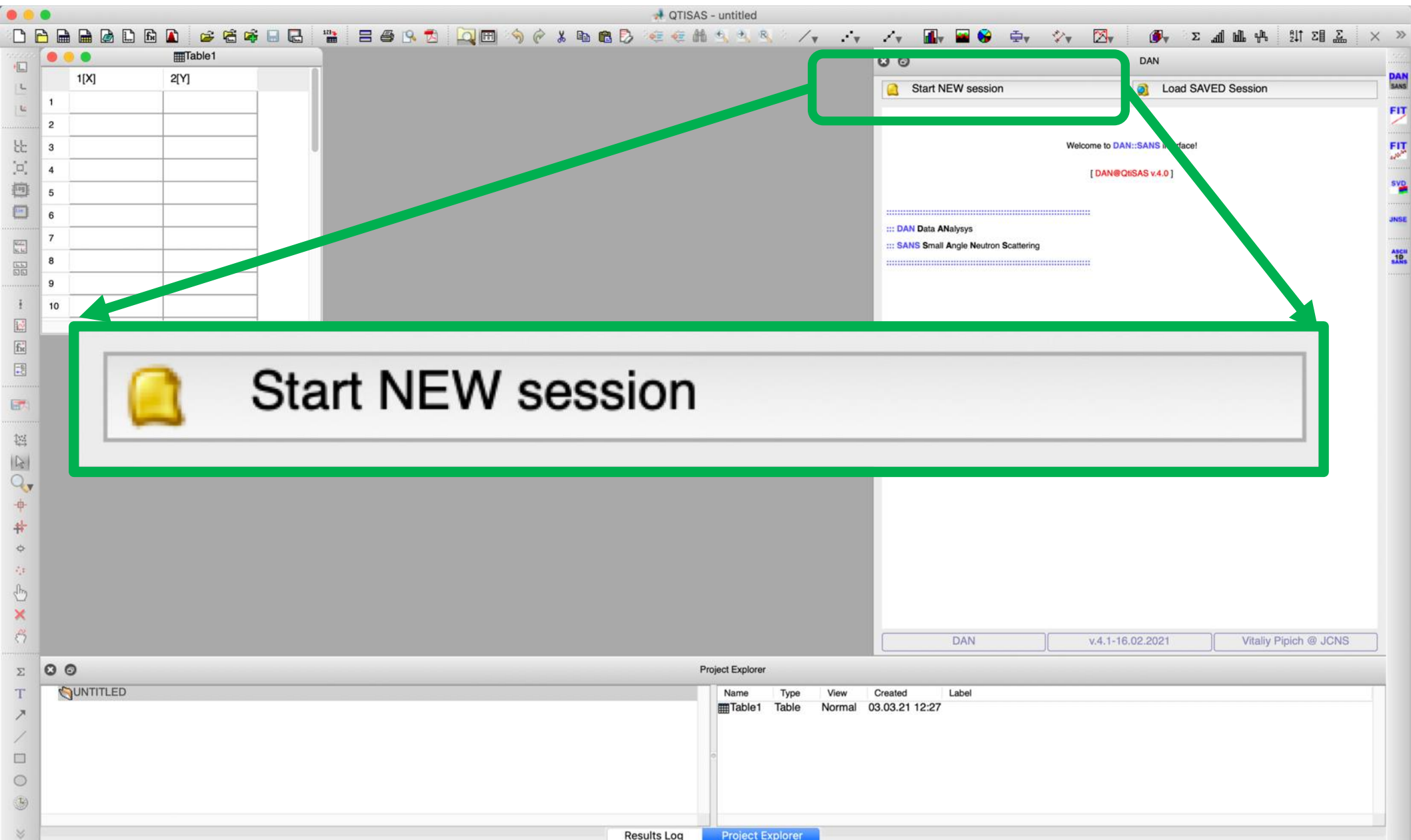
FIT

SVD

JNSE

ASCII 1D SANS

Starting of “New Session”



QTISAS - untitled

Table1

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

DAN

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

Project Explorer

UNTITLED

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

Results LogProject Explorer

Helvetica0B//Ux²x₂αβΓfUnicode

STEP 1: Instrument Selection

Select Data-Reduction-Instrument: KWS1-2020

The screenshot displays the QTIAS software interface. On the left, a table labeled 'Table1' is visible. In the center, a large green-bordered box contains a list of instrument names, with 'KWS1-2020' at the top, marked with a checkmark. To the right, a smaller green-bordered box shows a dropdown menu with the same list of instruments, also with 'KWS1-2020' selected. Arrows point from these boxes to the 'Options' tab in the 'DAN' panel on the right, which is currently set to 'KWS2-He3-20%'. The 'DAN' panel includes tabs for 'Options', 'Rawdata Tools', 'Mask', 'Sensitivity', and 'Data Processing'. Below the 'DAN' panel, the 'Project Explorer' shows a table with columns 'Name', 'Type', 'View', 'Created', and 'Label', containing one entry: 'Table1', 'Table', 'Normal', '03.03.21 12:27'. The bottom status bar shows 'Results Log' and 'Project Explorer' tabs, along with a font selection of 'Helvetica'.

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

Instrument Selection List:

- ✓ 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

DAN Panel:

KWS2-He3-20%

Options Rawdata Tools Mask Sensitivity Data Processing

Select (Create) SA(N)S instrument: Data-Processing-Mode

Standard Mode

SA(N)S Instrument :: Configuration

DAN

Project Explorer:

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

Selected: KWS1-2020

Table1

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

DAN

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

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

KWS1-2020(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/

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

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

KWS1-2020(SM) Standard Mode

SA(N)S Instrument :: Configuration

DAN

Project Explorer

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

Results LogProject Explorer

Helvetica0BItUx²x₂αβΓfUnicode

Instrument related parameters are “hidden” in “SA(N)S Instrument :: configuration” tab (**not explained in this file**)

Data :: Input and Output Folders

SA(N)S Instrument :: Configuration

Header:: Map

Free ASCII format [standart]

☒ "Flexible" Header | Last Line :: \$(* Detector Data for

	#-Line	#-Pos
[Experiment-Title]	3	s_1
[User-Name]	5	s 6
[Sample-Run-Number]	11	1
[Sample-Title]	16	sl1
[Sample-Thickness]	34	3
[Sample-Position-Number]	34	1
[Date]	5	s 8
[Time]	5	s 9

STEP 2: Raw-Data Path Selection

Select Path (Folder) where your data is located

The screenshot displays a software interface with a file selection dialog and a configuration window. The file selection dialog, titled "data", shows a list of files in the "sans" folder. A green arrow points from the "sans" folder in the left sidebar to the file list. Another green arrow points from a folder icon in the "Data :: Input and Output Folders" section to the "sans" folder in the sidebar.

File Selection Dialog (data):

Name	Date Modified	Size
_48462_Stan_C8_S4_D0.DAT	17, Mar 2020 at 10:22	658 KB
example-kws1_53216_Stan_C20_S2_D0.DAT	Today at 12:19	658 KB
example-kws1_53217_Stan_C20_S3_D0.DAT	Today at 12:20	658 KB
example-kws1_53218_Stan_C20_S4_D0.DAT	Today at 12:20	658 KB
example-kws1_53219_Stan_C20_S5_D0.DAT	Today at 12:20	658 KB
example-kws1_53220_Stan_C8_S2_D0.DAT	Today at 12:21	658 KB
example-kws1_53221_Stan_C8_S3_D0.DAT	Today at 12:21	658 KB
example-kws1_53222_Stan_C8_S4_D0.DAT	Today at 12:21	658 KB
example-kws1_53223_Stan_C8_S5_D0.DAT	Today at 12:22	658 KB
example-kws1_53224_Stan_C8_S1_D0.DAT	Today at 12:22	658 KB
example-kws1_53225_Stan_C8_S2_D0.DAT	Today at 12:22	658 KB
example-kws1_53226_Stan_C8_S3_D0.DAT	Today at 12:22	658 KB
example-kws1_53227_Stan_C8_S4_D0.DAT	Today at 12:23	658 KB
example-kws1_53228_Stan_C8_S5_D0.DAT	Today at 12:23	658 KB
example-kws1_53229_Stan_C20_S1_D0.DAT	Today at 12:23	658 KB
example-kws1_53230_Stan_C20_S2_D0.DAT	Today at 12:24	658 KB
sens-20200117.sens	17, Mar 2020 at 10:28	311 KB

Configuration Window (DAN):

Options | Rawdata Tools | Mask | Sensitivity | Data Processing

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

KWS1-2020 (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

Project Explorer

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

Path (Folder): selected

Table1

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

DAN

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

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

KWS1-2020 (SM) Standard Mode

Data :: Input and Output Folders

Input Folder

Documents/sans/qtisas-documentation/dan-sans/kws-1/data/ *_*_.DAT

☐ Search for rawdata also in sub-folders

Output Folder

/Users/pipich/Documents/sans/qtisas-documentation/dan-sans/kws-1/

SA(N)S Instrument :: Configuration

DAN

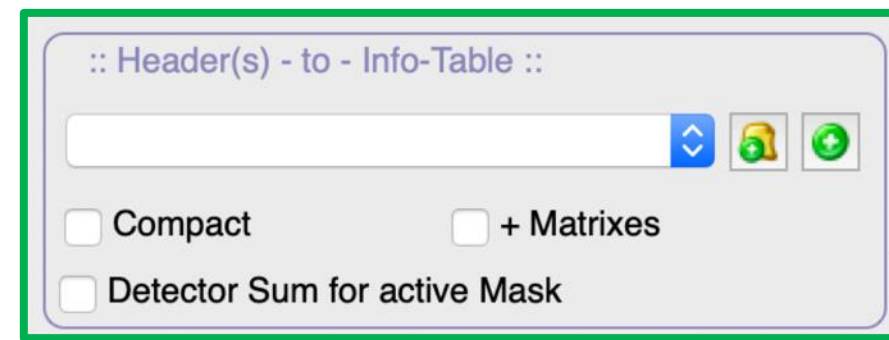
Project Explorer

UNTITLED

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

Results LogProject Explorer

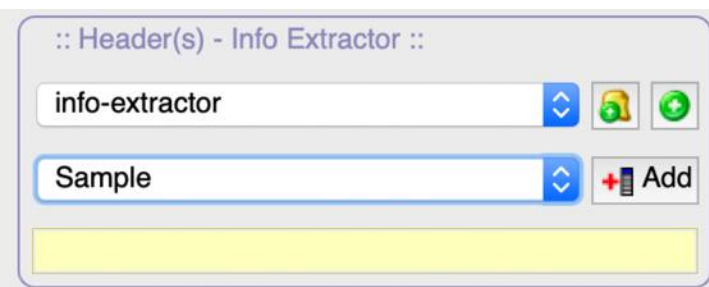
Helvetica0BItUx²x₂αβΓfUnicode



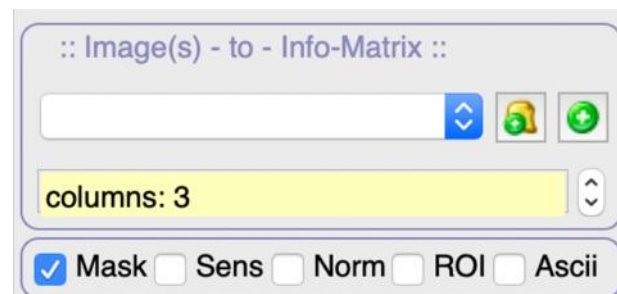
Experiment „logbook“ generation: “Header(s) - to – Info-Table” interface

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

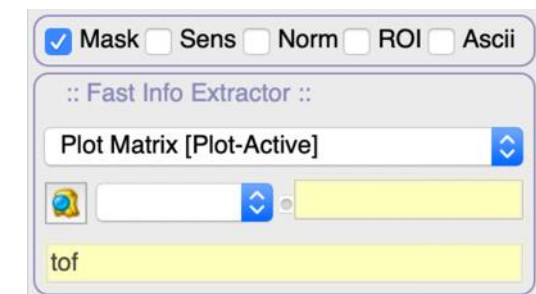
More tools below (not explained in this file)



Header(s) - to – Info Extractor
Step-by-step adding of
parameters to your „logbook“



Image(s) - to - Info Matrix
Step-by-step adding of
Raw-matrixes to single matrix



Fast Info Extractor
Every raw-file could be investigated
Here in details

3.1 Go to Rawdata Tools tab

Table1

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

DAN

KWS-1&2-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

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	03.03.21 12:27	

Results LogProject Explorer

3.2 Push



Button and enter **Table Name**

The screenshot displays the QTI SAS software interface. On the left, a table named 'Table1' is visible with columns '1[X]' and '2[Y]'. The main workspace shows a 'Table's Generator' dialog box with the title 'Table's Generat...'. The dialog prompts the user to 'Enter name of Table:' and has a text input field containing 'info-table'. Below the input field are 'Cancel' and 'OK' buttons. A green box highlights the dialog box. To the right, the 'Rawdata Tools' panel is open, showing various tool options. A green box highlights a green push button icon in the 'Rawdata Tools' panel. A green arrow points from this icon to the 'Table's Generator' dialog box. Another green arrow points from the top right of the screenshot to a larger green push button icon. The bottom of the interface shows the 'Project Explorer' panel with a table listing the project files.

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

3.3 Select Data to get Information

Table1

1[X]

2[Y]

1

2

3

4

5

6

7

8

9

10

data

Search

Favourites

Macintosh HD

pipich

Desktop

Documents

Applications

Recents

Downloads

qtikws16

qtisas18

qtiSAS

sciebo

doc

sans

kws1

kws2

kws3

iCloud

iCloud Drive

Name

Date Modified

Size

48462_Stan_C8_S4_D0.DAT

example-kws1_53216_Stan_C20_S2_D0.DAT

example-kws1_53217_Stan_C20_S3_D0.DAT

example-kws1_53218_Stan_C20_S4_D0.DAT

example-kws1_53219_Stan_C20_S5_D0.DAT

example-kws1_53220_Stan_C8_S2_D0.DAT

example-kws1_53221_Stan_C8_S3_D0.DAT

example-kws1_53222_Stan_C8_S4_D0.DAT

example-kws1_53223_Stan_C8_S5_D0.DAT

example-kws1_53224_Stan_C8_S1_D0.DAT

example-kws1_53225_Stan_C8_S2_D0.DAT

example-kws1_53226_Stan_C8_S3_D0.DAT

example-kws1_53227_Stan_C8_S4_D0.DAT

example-kws1_53228_Stan_C8_S5_D0.DAT

example-kws1_53229_Stan_C20_S1_D0.DAT

example-kws1_53230_Stan_C20_S2_D0.DAT

sens-20200117.sens

17. Mar 2020 at 10:22

Today at 12:19

Today at 12:20

Today at 12:20

Today at 12:20

Today at 12:21

Today at 12:21

Today at 12:21

Today at 12:21

Today at 12:22

Today at 12:22

Today at 12:22

Today at 12:23

Today at 12:23

Today at 12:23

Today at 12:23

Today at 12:24

17. Mar 2020 at 10:28

658 KB

658 KB

658 KB

658 KB

658 KB

658 KB

658 KB

658 KB

658 KB

658 KB

658 KB

658 KB

658 KB

658 KB

658 KB

658 KB

311 KB

New Folder

Options

Cancel

Open

DAN

KWS1-2020

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

Add

Merge :: Raw Files ::

Select Files & Merge

Merge Files in Active Table (2 steps):

Select Files & Create Table

Merge

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

03.03.21 12:27

Results Log

Project Explorer

3.4 “info-table” is generated

Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date
1	b4c	out	48462	8	3.265	4.930 50.0x50.0l12.0x5.0	28215	43200	0.653125	13-Jan-202
2	EB	out	53216	20	19.680	4.930 50.0x50.0l12.0x12.0	3.093e+06	1000	3093	16-Mar-20:
3	H-J	out	53217	20	19.680	4.930 50.0x50.0l12.0x12.0	4.88756e+06	1000	4887.56	16-Mar-20:
4	H-L	out	53218	20	19.680	4.930 50.0x50.0l12.0x12.0	7.17123e+06	1000	7171.23	16-Mar-20:
5	H-M	out	53219	20	19.680	4.930 50.0x50.0l12.0x12.0	6.08934e+06	1000	6089.34	16-Mar-20:
6	EB	out	53220	8	7.680	4.930 50.0x50.0l12.0x12.0	3.04949e+06	1000	3049.49	16-Mar-20:
7	H-J	out	53221	8	7.680	4.930 50.0x50.0l12.0x12.0	6.97901e+06	1000	6979.01	16-Mar-20:
8	H-L	out	53222	8	7.680	4.930 50.0x50.0l12.0x12.0	1.03647e+07	1000	10364.7	16-Mar-20:
9	H-M	out	53223	8	7.680	4.930 50.0x50.0l12.0x12.0	8.75265e+06	1000	8752.65	16-Mar-20:
10	Plexy	out	53224	8	1.980	4.930 50.0x50.0l12.0x12.0	1.05809e+08	900	117566	16-Mar-20:
11	EB	out	53225	8	1.980	4.930 50.0x50.0l12.0x12.0	1.19434e+07	900	13270.4	16-Mar-20:
12	H-J	out	53226	8	1.980	4.930 50.0x50.0l12.0x12.0	2.4383e+07	900	27092.2	16-Mar-20:
13	H-L	out	53227	8	1.980	4.930 50.0x50.0l12.0x12.0	2.68415e+07	900	29823.9	16-Mar-20:
14	H-M	out	53228	8	1.980	4.930 50.0x50.0l12.0x12.0	2.56711e+07	900	28523.4	16-Mar-20:
15	Plexy	out	53229	20	1.980	4.930 50.0x50.0l12.0x12.0	7.76353e+06	300	25878.4	16-Mar-20:
16	EB	out	53230	20	1.980	4.930 50.0x50.0l12.0x12.0	952105	300	3173.68	16-Mar-20:

OptionsRawdata ToolsMaskSensitivityData ProcessingM

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

UNTITLED

DAN :: script, info, ...

Name	Type	View	Created	Label
info-table	Table	Maximized	03.03.21 12:36	Info::Table

Results LogProject Explorer

Helvetica

STEP 4 (optional): Data “Understanding”

Samples

info-table - Info::Table													
	Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date	Time	
1	b4c	out	48462	8	3.265	4.930	50.0x50.0 5.0x5.0	28215	43200	0.653125	13-Jan-2020	19:18:02.00	
2	EB	out	53216	20	19.680	4.930	50.0x50.0 12.0x12.0	3.093e+06	1000	3093	16-Mar-2020	17:00:32.00	
3	H-J	out	53217	20	19.680	4.930	50.0x50.0 12.0x12.0	4.88756e+06	1000	4887.56	16-Mar-2020	17:17:27.00	
4	H-L	out	53218	20	19.680	4.930	50.0x50.0 12.0x12.0	7.17123e+06	1000	7171.23	16-Mar-2020	17:34:17.00	
5	H-M	out	53219	20	19.680	4.930	50.0x50.0 12.0x12.0	6.08934e+06	1000	6089.34	16-Mar-2020	17:51:07.00	
6	EB	out	53220	8	7.680	4.930	50.0x50.0 12.0x12.0	3.04949e+06	1000	3049.49	16-Mar-2020	18:22:04.00	
7	H-J	out	53221	8	7.680	4.930	50.0x50.0 12.0x12.0	6.97901e+06	1000	6979.01	16-Mar-2020	18:38:59.00	
8	H-L	out	53222	8	7.680	4.930	50.0x50.0 12.0x12.0	1.03647e+07	1000	10364.7	16-Mar-2020	18:55:49.00	
9	H-M	out	53223	8	7.680	4.930	50.0x50.0 12.0x12.0	8.75265e+06	1000	8752.65	16-Mar-2020	19:12:39.00	
10	Plexy	out	53224	8	1.980	4.930	50.0x50.0 12.0x12.0	1.05809e+08	900	117566	16-Mar-2020	19:38:28.00	
11	EB	out	53225	8	1.980	4.930	50.0x50.0 12.0x12.0	1.19434e+07	900	13270.4	16-Mar-2020	19:53:41.00	
12	H-J	out	53226	8	1.980	4.930	50.0x50.0 12.0x12.0	2.4383e+07	900	27092.2	16-Mar-2020	20:08:56.00	
13	H-L	out	53227	8	1.980	4.930	50.0x50.0 12.0x12.0	2.68415e+07	900	29823.9	16-Mar-2020	20:24:06.00	
14	H-M	out	53228	8	1.980	4.930	50.0x50.0 12.0x12.0	2.56711e+07	900	28523.4	16-Mar-2020	20:39:17.00	
15	Plexy	out	53229	20	1.980	4.930	50.0x50.0 12.0x12.0	7.76353e+06	300	25878.4	16-Mar-2020	20:54:46.00	
16	EB	out	53230	20	1.980	4.930	50.0x50.0 12.0x12.0	952105	300	3173.68	16-Mar-2020	20:59:59.00	

3 samples: H-J, H-L, H-M;
3 configurations: C20D20, C8D8, C8C2 (WaveLength 4.93A, s.aperture 12x12mm², c.aperture 50x50mm²)

“Dark Current”

info-table - Info::Table												
	Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date	Time
1	b4c	out	48462	8	3.265	4.930	50.0x50.0 5.0x5.0	28215	41200	0.653125	13-Jan-2020	19:18:02.00
2	EB	out	53216	20	19.680	4.930	50.0x50.0 12.0x12.0	3.0935e+06	1000	3093	16-Mar-2020	17:00:32.00
3	H-J	out	53217	20	19.680	4.930	50.0x50.0 12.0x12.0	4.88756e+06	1000	4887.56	16-Mar-2020	17:17:27.00
4	H-L	out	53218	20	19.680	4.930	50.0x50.0 12.0x12.0	7.17123e+06	1000	7171.23	16-Mar-2020	17:34:17.00
5	H-M	out	53219	20	19.680	4.930	50.0x50.0 12.0x12.0	6.08934e+06	1000	6089.34	16-Mar-2020	17:51:07.00
6	EB	out	53220	8	7.680	4.930	50.0x50.0 12.0x12.0	3.04949e+06	1000	3049.49	16-Mar-2020	18:22:04.00
7	H-J	out	53221	8	7.680	4.930	50.0x50.0 12.0x12.0	6.97901e+06	1000	6979.01	16-Mar-2020	18:38:59.00
8	H-L	out	53222	8	7.680	4.930	50.0x50.0 12.0x12.0	1.03647e+07	1000	10364.7	16-Mar-2020	18:55:49.00
9	H-M	out	53223	8	7.680	4.930	50.0x50.0 12.0x12.0	8.75265e+06	1000	8752.65	16-Mar-2020	19:12:39.00
10	Plexy	out	53224	8	1.980	4.930	50.0x50.0 12.0x12.0	1.05809e+08	900	117566	16-Mar-2020	19:38:28.00
11	EB	out	53225	8	1.980	4.930	50.0x50.0 12.0x12.0	1.19434e+07	900	13270.4	16-Mar-2020	19:53:41.00
12	H-J	out	53226	8	1.980	4.930	50.0x50.0 12.0x12.0	2.4383e+07	900	27092.2	16-Mar-2020	20:08:56.00
13	H-L	out	53227	8	1.980	4.930	50.0x50.0 12.0x12.0	2.68415e+07	900	29823.9	16-Mar-2020	20:24:06.00
14	H-M	out	53228	8	1.980	4.930	50.0x50.0 12.0x12.0	2.56711e+07	900	28523.4	16-Mar-2020	20:39:17.00
15	Plexy	out	53229	20	1.980	4.930	50.0x50.0 12.0x12.0	7.76353e+06	300	25878.4	16-Mar-2020	20:54:46.00
16	EB	out	53230	20	1.980	4.930	50.0x50.0 12.0x12.0	952105	300	3173.68	16-Mar-2020	20:59:59.00

Dark Current, B4C

Detector Dark Current : #48462 (blocked beam with B4C;
 Ask local contact to provide this file (single file will be used in all configurations)

Empty Beam/Cell

Info-table - Info::Table													
	Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date	Time	F
1	b4c	out	48462	8	3.265	4.930	50.0x50.0 5.0x5.0	28215	43200	0.653125	13-Jan-2020	19:18:02.00	
2	EB	out	53216	20	19.680	4.930	50.0x50.0 12.0x12.0	3.0934e+06	1000	3093	16-Mar-2020	17:00:32.00	
3	H-J	out	53217	20	19.680	4.930	50.0x50.0 12.0x12.0	1.08750e+06	1000	4887.56	16-Mar-2020	17:17:27.00	
4	H-L	out	53218	20	19.680	4.930	50.0x50.0 12.0x12.0	7.17123e+06	1000	7171.23	16-Mar-2020	17:34:17.00	
5	H-M	out	53219	20	19.680	4.930	50.0x50.0 12.0x12.0	6.08934e+06	1000	6089.34	16-Mar-2020	17:51:07.00	
6	EB	out	53220	8	7.680	4.930	50.0x50.0 12.0x12.0	3.04949e+06	1000	3049.49	16-Mar-2020	18:22:04.00	
7	H-J	out	53221	8	7.680	4.930	50.0x50.0 12.0x12.0	6.97901e+06	1000	6979.01	16-Mar-2020	18:38:59.00	
8	H-L	out	53222	8	7.680	4.930	50.0x50.0 12.0x12.0	1.03647e+07	1000	10364.7	16-Mar-2020	18:55:49.00	
9	H-M	out	53223	8	7.680	4.930	50.0x50.0 12.0x12.0	8.75265e+06	1000	8752.65	16-Mar-2020	19:12:39.00	
10	Plexv	out	53224	8	1.980	4.930	50.0x50.0 12.0x12.0	1.05809e+08	900	117566	16-Mar-2020	19:38:28.00	
11	EB	out	53225	8	1.980	4.930	50.0x50.0 12.0x12.0	1.19424e+07	900	13270.4	16-Mar-2020	19:53:41.00	
12	H-L	out	53226	8	1.980	4.930	50.0x50.0 12.0x12.0	2.4383e+07	900	27092.2	16-Mar-2020	20:08:56.00	
13	H-L	out	53227	8	1.980	4.930	50.0x50.0 12.0x12.0	2.68415e+07	900	29823.9	16-Mar-2020	20:24:06.00	
14	H-M	out	53228	8	1.980	4.930	50.0x50.0 12.0x12.0	2.56711e+07	900	28523.4	16-Mar-2020	20:39:17.00	
15	Plexy	out	53229	20	1.980	4.930	50.0x50.0 12.0x12.0	7.76353e+06	300	25878.4	16-Mar-2020	20:54:46.00	
16	EB	out	53230	20	1.980	4.930	50.0x50.0 12.0x12.0	952105	300	3173.68	16-Mar-2020	20:59:59.00	

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

Info-table - Info::Table													
	Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date	Time	F
1	b4c	out	48462	8	3.265	4.930	50.0x50.0 12.0x12.0	3.265e+06	1500	0.653125	13-Jan-2020	19:18:02.00	
2	EB	out	53216	20	19.680	4.930	50.0x50.0 12.0x12.0	8.888e+06	1000	3093	16-Mar-2020	17:00:32.00	
3	H-J	out	53217	20	19.680	4.930	50.0x50.0 12.0x12.0	4.88756e+06	1000	4887.56	16-Mar-2020	17:17:27.00	
4	H-L	out	53218	20	19.680	4.930	50.0x50.0 12.0x12.0	7.17123e+06	1000	7171.23	16-Mar-2020	17:34:17.00	
5	H-M	out	53219	20	19.680	4.930	50.0x50.0 12.0x12.0	6.08934e+06	1000	6089.34	16-Mar-2020	17:51:07.00	
6	EB	out	53220	8	7.680	4.930	50.0x50.0 12.0x12.0	3.04949e+06	1000	3049.49	16-Mar-2020	18:22:04.00	
7	H-J	out	53221	8	7.680	4.930	50.0x50.0 12.0x12.0	6.97901e+06	1000	6979.01	16-Mar-2020	18:38:59.00	
8	H-L	out	53222	8	7.680	4.930	50.0x50.0 12.0x12.0	1.03647e+07	1000	10364.7	16-Mar-2020	18:55:49.00	
9	H-M	out	53223	8	7.680	4.930	50.0x50.0 12.0x12.0	8.75285e+06	1000	8752.65	16-Mar-2020	19:12:39.00	
10	Plexy	out	53224	8	1.980	4.930	50.0x50.0 12.0x12.0	1.05809e+08	900	117566	16-Mar-2020	19:38:28.00	
11	EB	out	53225	8	1.980	4.930	50.0x50.0 12.0x12.0	1.19434e+07	900	13270.4	16-Mar-2020	19:53:41.00	
12	H-J	out	53226	8	1.980	4.930	50.0x50.0 12.0x12.0	2.4383e+07	900	27092.2	16-Mar-2020	20:08:56.00	
13	H-L	out	53227	8	1.980	4.930	50.0x50.0 12.0x12.0	2.68415e+07	900	29823.9	16-Mar-2020	20:24:06.00	
14	H-M	out	53228	8	1.980	4.930	50.0x50.0 12.0x12.0	2.56711e+07	900	28523.4	16-Mar-2020	20:39:17.00	
15	Plexy	out	53229	20	1.980	4.930	50.0x50.0 12.0x12.0	1.76353e+08	300	25878.4	16-Mar-2020	20:54:46.00	
16	EB	out	53230	20	1.980	4.930	50.0x50.0 12.0x12.0	952105	300	3173.68	16-Mar-2020	20:59:59.00	

Absolute Calibration Runs:

- Plexy (“flat scattering sample”, like Plexiglas or H2O)
- EB (“Empty Beam”)
- B4C (“Dark Current”)

STEP 5: 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	b4c	out	48462	8	3.265	4.930	50.0x50.0l15.0x5.0	28215	43200	0.653125	13-Jan-20
2	EB	out	53216	20	19.680	4.930	50.0x50.0l12.0x12.0	3.093e+06	1000	3093	16-Mar-20
3	H-J	out	53217	20	19.680	4.930	50.0x50.0l12.0x12.0	4.88756e+06	1000	4887.56	16-Mar-20
4	H-L	out	53218	20	19.680	4.930	50.0x50.0l12.0x12.0	7.17123e+06	1000	7171.23	16-Mar-20
5	H-M	out	53219	20	19.680	4.930	50.0x50.0l12.0x12.0	6.08934e+06	1000	6089.34	16-Mar-20
6	EB	out	53220	8	7.680	4.930	50.0x50.0l12.0x12.0	3.04949e+06	1000	3049.49	16-Mar-20
7	H-J	out	53221	8	7.680	4.930	50.0x50.0l12.0x12.0	6.97901e+06	1000	6979.01	16-Mar-20
8	H-L	out	53222	8	7.680	4.930	50.0x50.0l12.0x12.0	1.03647e+07	1000	10364.7	16-Mar-20
9	H-M	out	53223	8	7.680	4.930	50.0x50.0l12.0x12.0	8.75265e+06	1000	8752.65	16-Mar-20
10	Plexy	out	53224	8	1.980	4.930	50.0x50.0l12.0x12.0	1.05809e+08	900	117566	16-Mar-20
11	EB	out	53225	8	1.980	4.930	50.0x50.0l12.0x12.0	1.19434e+07	900	13270.4	16-Mar-20
12	H-J	out	53226	8	1.980	4.930	50.0x50.0l12.0x12.0	2.4383e+07	900	27092.2	16-Mar-20
13	H-L	out	53227	8	1.980	4.930	50.0x50.0l12.0x12.0	2.68415e+07	900	29823.9	16-Mar-20
14	H-M	out	53228	8	1.980	4.930	50.0x50.0l12.0x12.0	2.56711e+07	900	28523.4	16-Mar-20
15	Plexy	out	53229	20	1.980	4.930	50.0x50.0l12.0x12.0	7.76353e+06	300	25878.4	16-Mar-20
16	EB	out	53230	20	1.980	4.930	50.0x50.0l12.0x12.0	952105	300	3173.68	16-Mar-20

DAN

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

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]

from: INPUT folder

to: OUTPUT/raw-matrix folder

Extract

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

DAN :: script, info, ...

Name	Type	View	Created	Label
info-table	Table	Maximized	03.03.21 12:36	Info::Table

Results LogProject Explorer

Helvetica

Push button “Update”: matrix “mask” will be created (updated)

The screenshot displays the QTISAS software interface. On the left, a table titled "info-table - Info::Table" contains experimental data. The table has columns for Sample, Polarization, Runs[X], C, D, lambda, Beam, Sum[Y], Duration, cps[Y], and Date. The last row (16) is highlighted, showing data for sample "EB" with lambda 4.930 and Beam "50.0x50.0i12.0x12.0".

On the right, the "DAN" panel is active, showing the "Mask" tab. A green box highlights the "Update" button. Below this, there are fields for "Active Mask-Matrix" (set to "mask") and "Select Active Area of Detector". The "Edge" checkbox is checked, and the "Beam-Stop | Direct-Beam" section shows coordinates for the beam stop. The "Dead" rows and columns are listed, and the "Triangular mask(s)" field is empty.

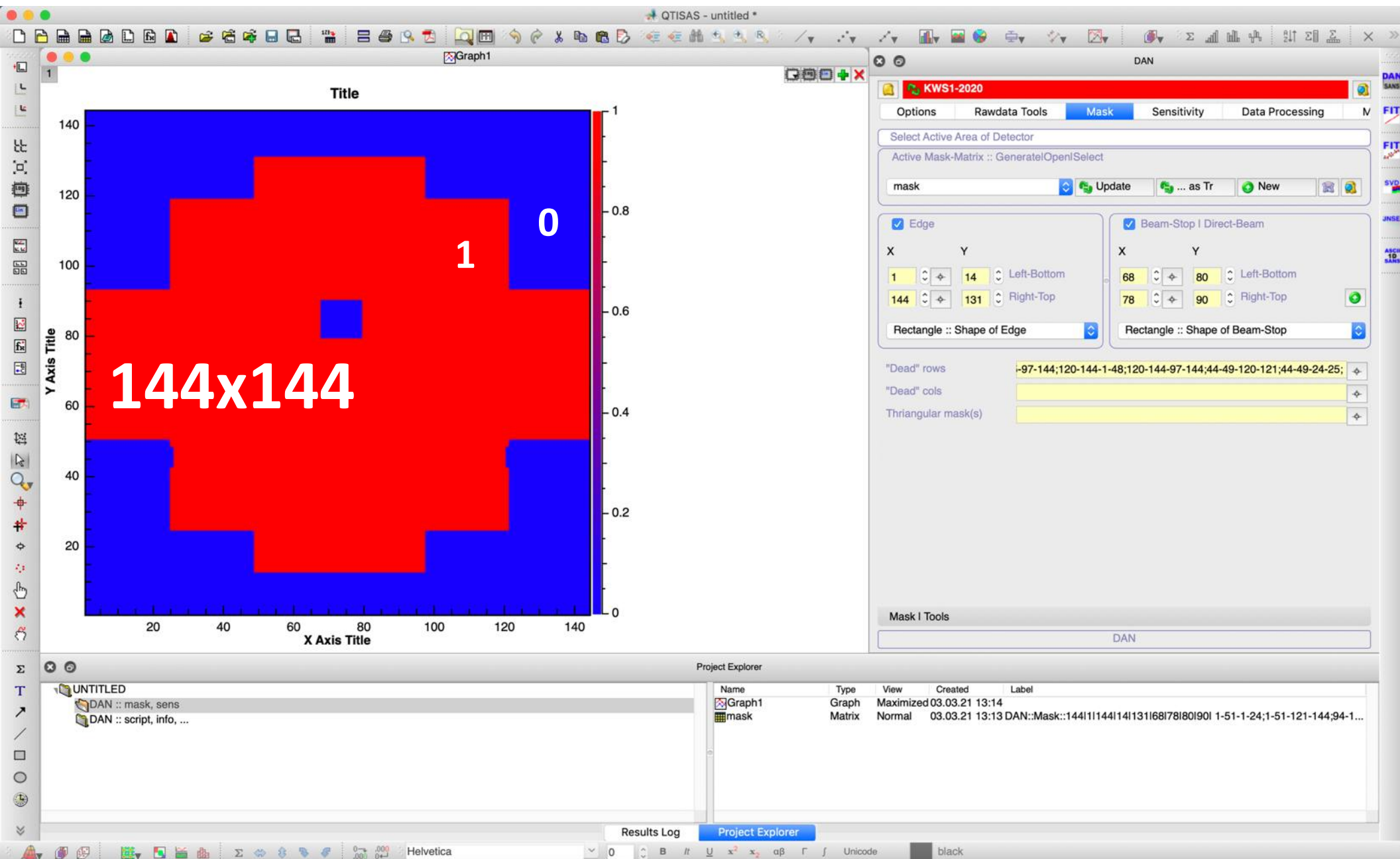
At the bottom, the "Project Explorer" panel shows a list of files, including "UNTITLED" and "DAN :: script, info, ...". The "Results Log" and "Project Explorer" tabs are visible at the bottom of the interface.

	Sample	Polarization	Runs[X]	C	D	lambda	Beam	Sum[Y]	Duration	cps[Y]	Date
1	b4c	out	48462	8	3.265	4.930	50.0x50.0i5.0x5.0	28215	43200	0.653125	13-Jan-2020
2	EB	out	53216	20	19.680	4.930	50.0x50.0i12.0x12.0	3.093e+06	1000	3093	16-Mar-2020
3	H-J	out	53217	20	19.680	4.930	50.0x50.0i12.0x12.0	4.88756e+06	1000	4887.56	16-Mar-2020
4	H-L	out	53218	20	19.680	4.930	50.0x50.0i12.0x12.0	7.17123e+06	1000	7171.23	16-Mar-2020
5	H-M	out	53219	20	19.680	4.930	50.0x50.0i12.0x12.0	6.08934e+06	1000	6089.34	16-Mar-2020
6	EB	out	53220	8	7.680	4.930	50.0x50.0i12.0x12.0	3.04949e+06	1000	3049.49	16-Mar-2020
7	H-J	out	53221	8	7.680	4.930	50.0x50.0i12.0x12.0	6.97901e+06	1000	6979.01	16-Mar-2020
8	H-L	out	53222	8	7.680	4.930	50.0x50.0i12.0x12.0	1.03647e+07	1000	10364.7	16-Mar-2020
9	H-M	out	53223	8	7.680	4.930	50.0x50.0i12.0x12.0	8.75265e+06	1000	8752.65	16-Mar-2020
10	Plexy	out	53224	8	1.980	4.930	50.0x50.0i12.0x12.0	1.05809e+08	900	117566	16-Mar-2020
11	EB	out	53225	8	1.980	4.930	50.0x50.0i12.0x12.0	1.19434e+07	900	13270.4	16-Mar-2020
12	H-J	out	53226	8	1.980	4.930	50.0x50.0i12.0x12.0	2.4383e+07	900	27092.2	16-Mar-2020
13	H-L	out	53227	8	1.980	4.930	50.0x50.0i12.0x12.0	2.68415e+07	900	29823.9	16-Mar-2020
14	H-M	out	53228	8	1.980	4.930	50.0x50.0i12.0x12.0	2.56711e+07	900	28523.4	16-Mar-2020
15	Plexy	out	53229	20	1.980	4.930	50.0x50.0i12.0x12.0	7.76353e+06	300	25878.4	16-Mar-2020
16	EB	out	53230	20	1.980	4.930	50.0x50.0i12.0x12.0	952105	300	3173.68	16-Mar-2020

The screenshot displays the QTIAS software interface. The main window shows a 2D mask matrix with rows and columns indexed from 1 to 37. The matrix cells are colored yellow, indicating a uniform mask. The right panel, titled 'DAN', contains the 'Mask' configuration section. It includes tabs for 'Options', 'Rawdata Tools', 'Mask', 'Sensitivity', and 'Data Processing'. The 'Mask' tab is active, showing the 'Active Mask-Matrix' as 'Generate/Open/Select'. Below this, there are input fields for 'mask' and buttons for 'Update', '... as Tr', and 'New'. The 'Edge' and 'Beam-Stop / Direct-Beam' sections are also visible, with checkboxes and coordinate inputs (X, Y) for defining the mask shape. The bottom of the interface shows a 'Project Explorer' panel with a tree view containing 'UNTITLED', 'DAN :: mask, sens', and 'DAN :: script, info, ...'. The status bar at the bottom indicates the font is 'Helvetica' and the encoding is 'Unicode'.

The screenshot displays the QTIAS software interface. The main window shows a 2D mask matrix with rows and columns indexed from 1 to 37. The matrix cells are colored yellow, indicating a specific mask configuration. To the right, a settings panel for 'KWS1-2020' is visible, featuring tabs for 'Options', 'Rawdata Tools', 'Mask', 'Sensitivity', and 'Data Processing'. The 'Mask' tab is active, showing parameters for 'Edge' and 'Beam-Stop | Direct-Beam' detection, including X and Y coordinates and shape definitions. Below the main window, a 'Project Explorer' panel lists the current project files: 'UNTITLED', 'DAN :: mask, sens', and 'DAN :: script, info, ...'. At the bottom left, a context menu is open, showing options for 'Color Fill', 'Contour Lines', and 'Gray Scale Map'. The bottom status bar indicates the current font is 'Helvetica' and the encoding is 'Unicode'.

Plotting Example: “Color Fill”

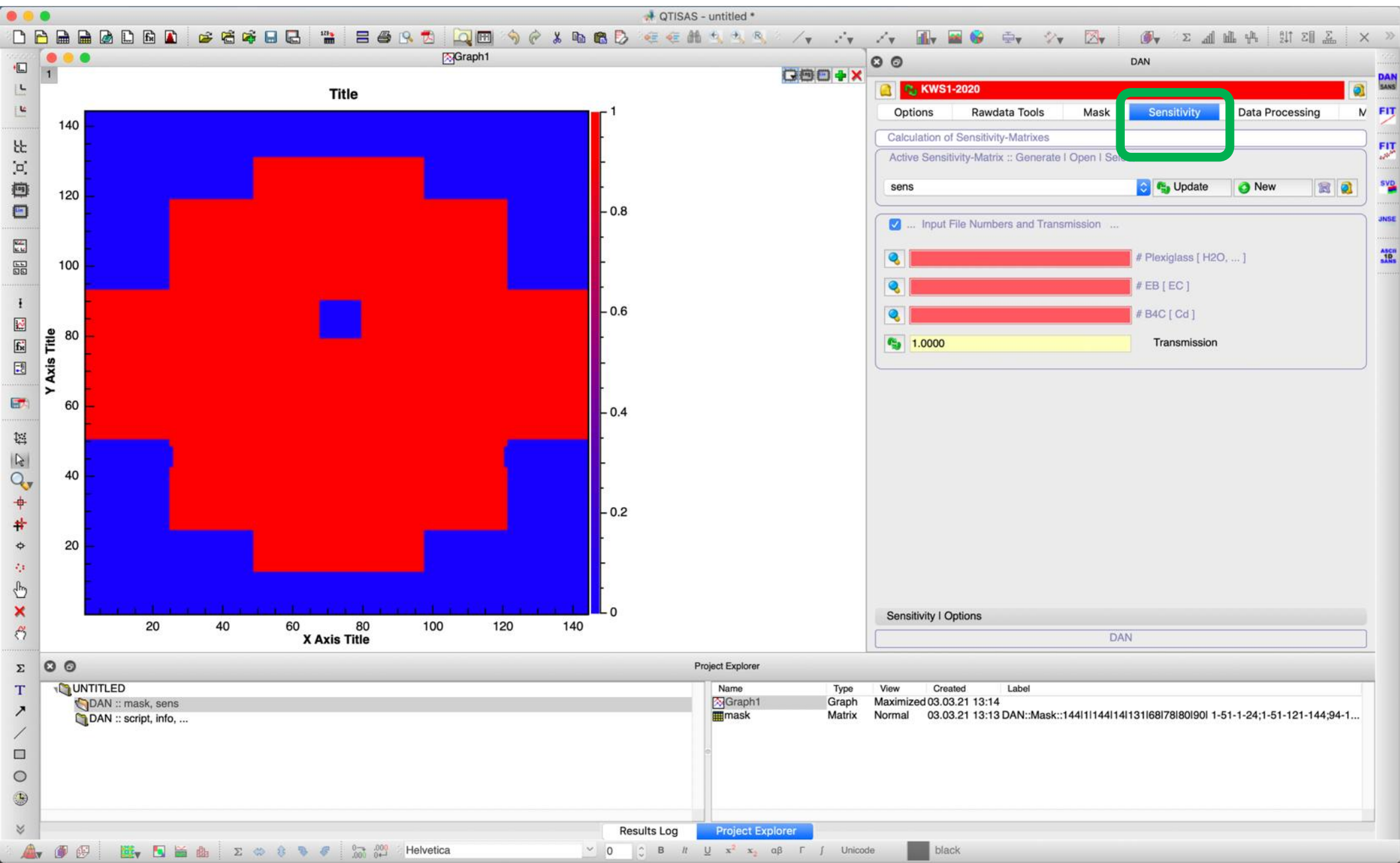


STEP 6: Detector Sensitivity (“Sens”) Reading

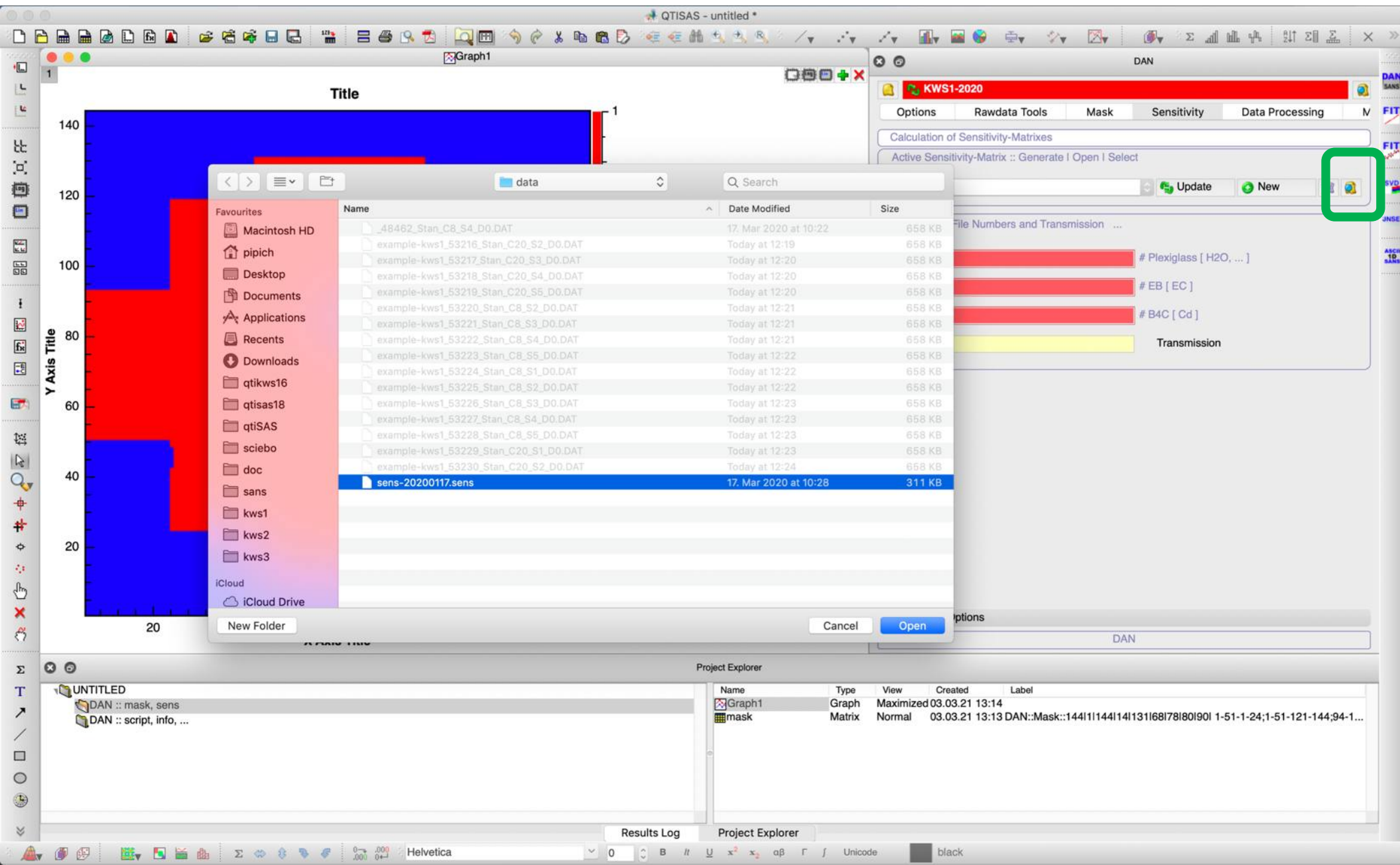
KWS-1 case: ask Local Contact to provide *.sens file

In this example we use: **sens-20200117.sens**

Go to Sensitivity tab



Push  (open) button and select *.sens file



The screenshot displays the QTISAS software interface. A file selection dialog is open, showing a list of files in the 'data' folder. The file 'sens-20200117.sens' is selected. The background shows a graph titled 'Title' with a Y-axis labeled 'Y Axis Title' and a red area. The right panel shows the 'KWS1-2020' project settings, including tabs for 'Options', 'Rawdata Tools', 'Mask', 'Sensitivity', and 'Data Processing'. The 'Sensitivity' tab is active, showing 'Calculation of Sensitivity-Matrixes' and 'Active Sensitivity-Matrix :: Generate | Open | Select'. A green box highlights the 'Open' button in the 'Active Sensitivity-Matrix' section. The bottom panel shows the 'Project Explorer' with a table of project items.

Name	Type	View	Created	Label
Graph1	Graph	Maximized	03.03.21 13:14	
mask	Matrix	Normal	03.03.21 13:13	DAN::Mask::144i11144i141131i68i78i80i90i 1-51-1-24;1-51-121-144;94-1...

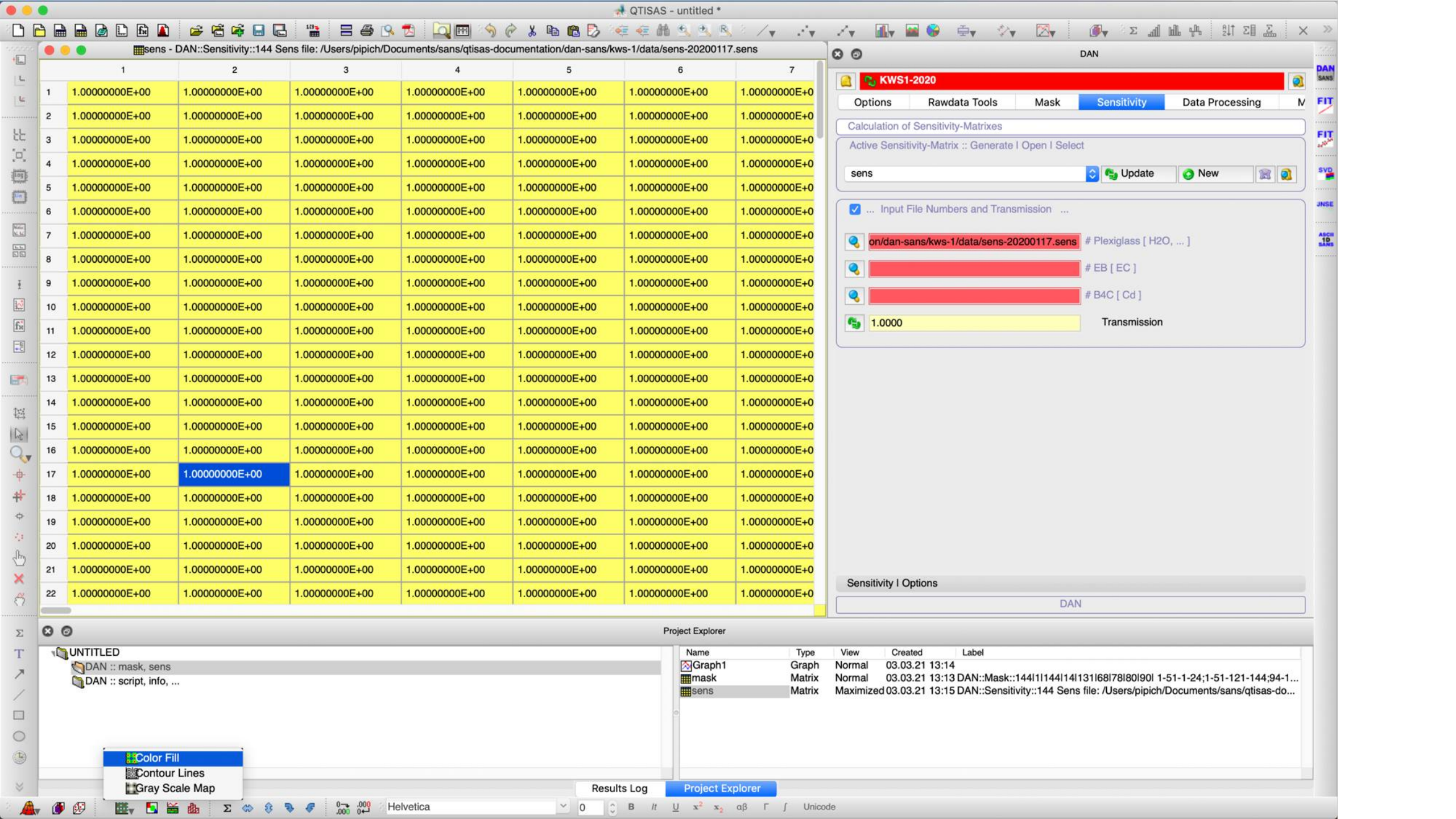
“sens” matrix is created in “DAN:: mask, sens” folder

The screenshot displays the QTISAS software interface. The main window shows a sensitivity matrix with 22 rows and 7 columns, all containing the value $1.00000000E+00$. The matrix is titled "sens - DAN::Sensitivity::144 Sens file: /Users/pipich/Documents/sans/qtisas-documentation/dan-sans/kws-1/data/sens-20200117.sens".

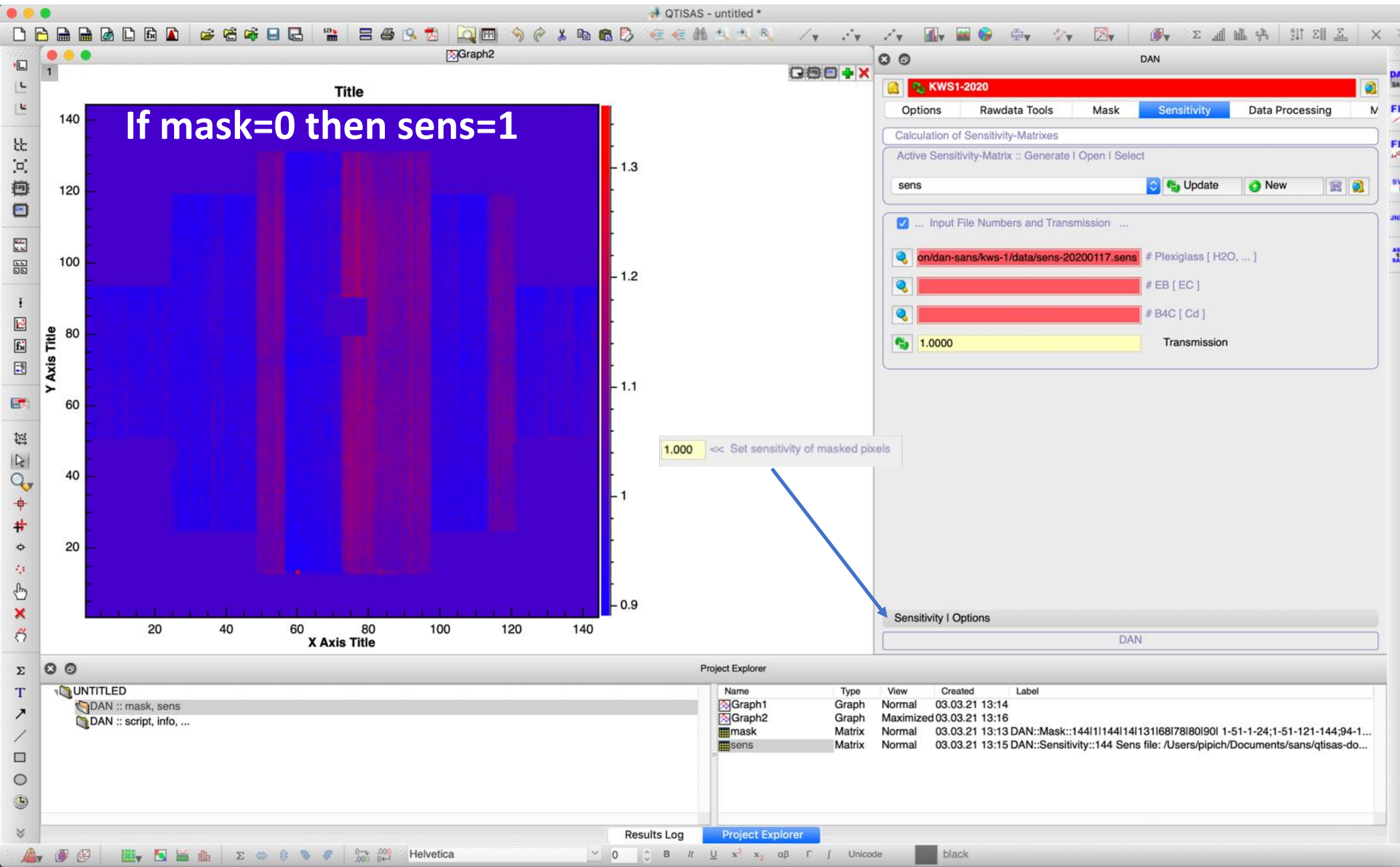
On the right, the "DAN" panel is visible, showing the "Sensitivity" tab. It includes a "Calculation of Sensitivity-Matrixes" section with a dropdown menu set to "sens" and buttons for "Update" and "New". Below this, there is a section for "Input File Numbers and Transmission" with a list of files and a "Transmission" input field set to "1.0000".

At the bottom, the "Project Explorer" panel shows a tree view of the project structure. The "DAN :: mask, sens" folder is highlighted, and the "sens" matrix is listed as a "Matrix" type file.

The bottom status bar shows the "Results Log" and "Project Explorer" tabs, along with a font selection of "Helvetica" and a color selection of "black".

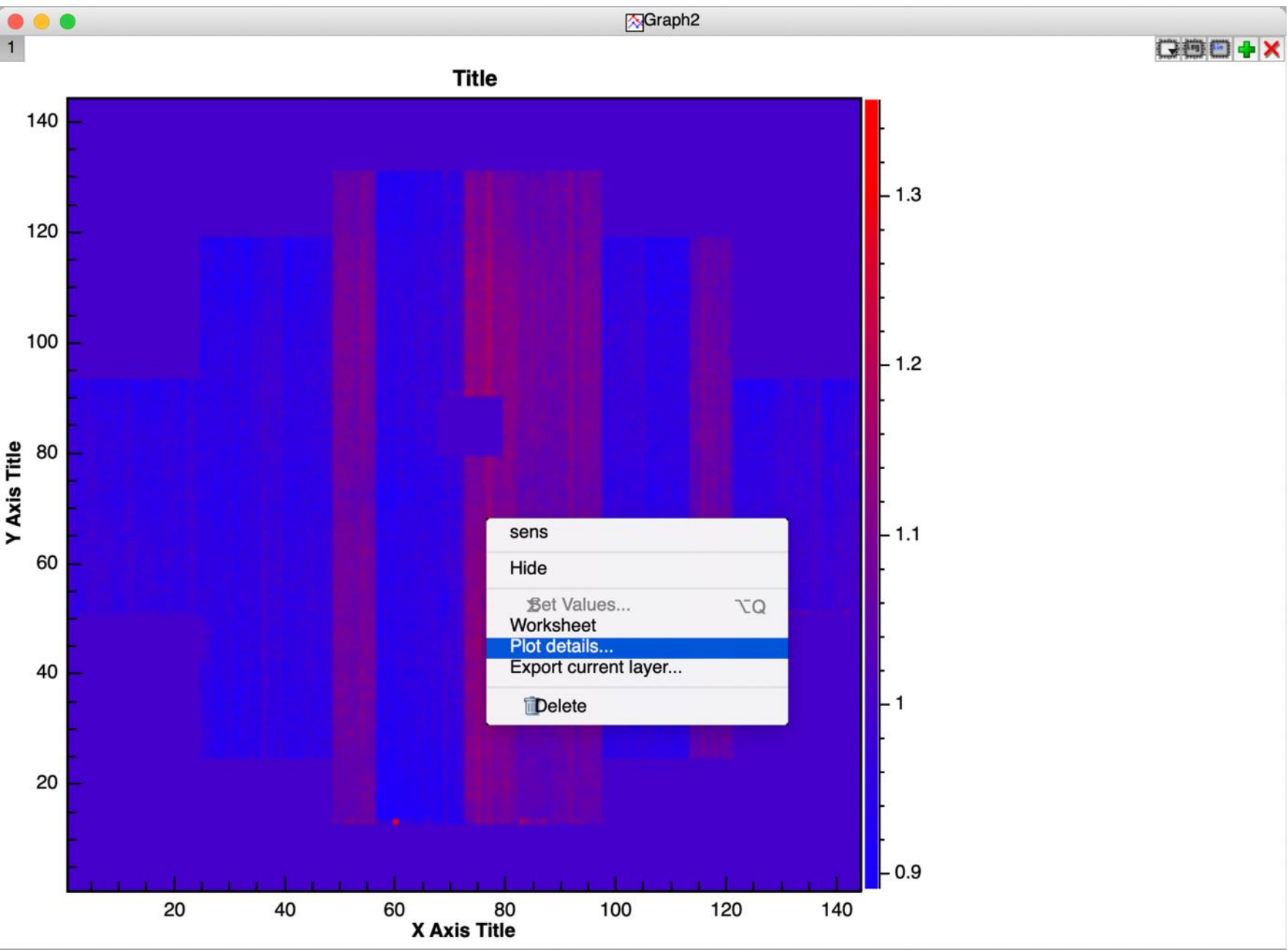


Plotting Example of “sens” matrix: “Color Fill”

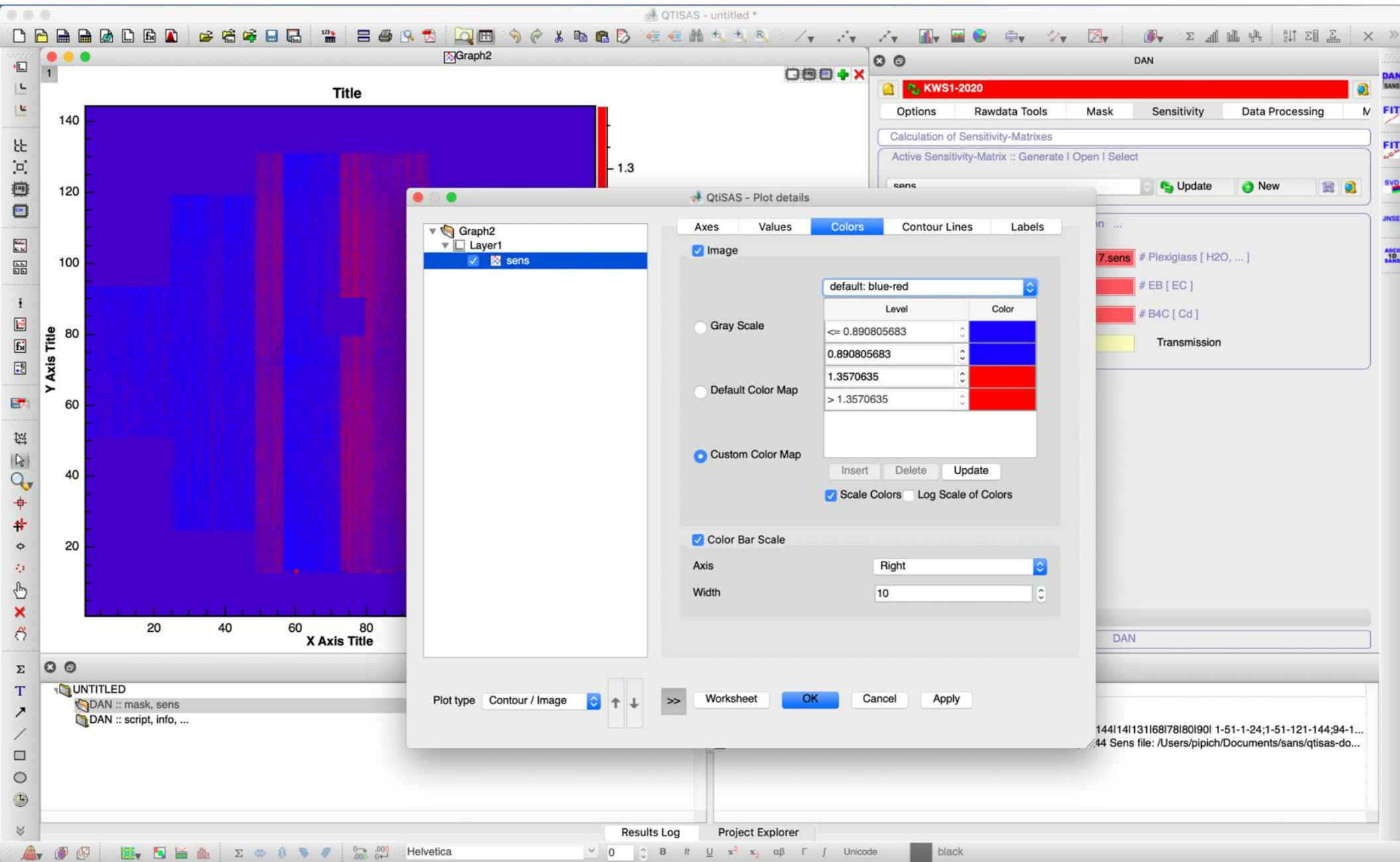


STEP 6a (optional): Change of the Color Map

Select “Plot details...”



Select "Colors" tab



Select "Color Map"

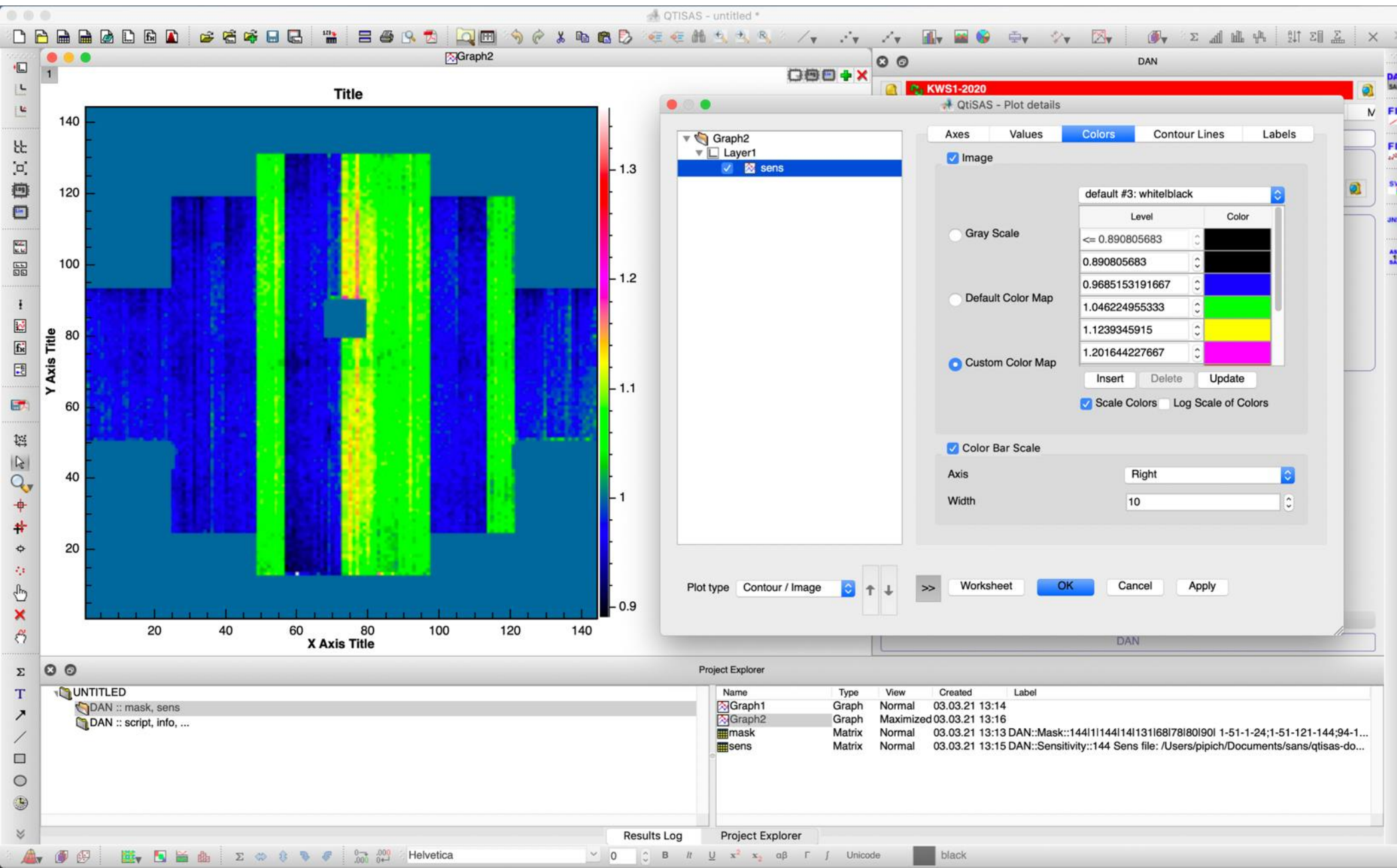
The screenshot displays the QTISAS software interface. The main window shows a heatmap plot titled "Title" with a color bar on the right indicating a scale from 0 to 1.3. The plot has an X-axis labeled "X Axis Title" and a Y-axis labeled "Y Axis Title".

A "QtISAS - Plot details" dialog box is open, showing the "Graph2" layer with the "sens" data selected. The "Values" tab is active, displaying options for "Image", "Gray Scale", "Default Color Map", and "Custom Color Map". The "Custom Color Map" option is selected, and a list of color maps is shown, including "default: blue-red", "default #1: rainbow", "default #2: gray scale", "default #3: white/black", "default #4: jet", "default #5: jet-white", "default #6: royal", "01---red-blue", "02---white-black", "1-AUTUMN", "4ZEBBOW", "560SEL", "ALTERN", "ANENOME", "AUTUMN", "BANDW", "BASIC", "BBR001", "BEACH", "BGOLD", "BlackBodyRadiation.map", "BLEND1", "BLEND3", "BLEND4", "BLEND8", "BLUEIN", "BLUEOUT", "BlueRed.map", "BLUES", "BLUORNG", "BP", "BPG", "BRASS", "BRITE", "BRWG", "BWB", "CARMEL", "CHINA", "CHROMA", "CHROMA2", "CHROMA3", "CLOUDS", "COLDFIRE", "COLORS", "COOL", "COPPER", "DARKEST", "DRAGON", "DW", "FIRE2", "FIRESTRM", "FLASH", "FRCOAST", "GAMMA1", "GAMMA2", "GLASS", "GLASSES1", "GLOBULE", "GRANGE", "GREEN-GRASS", "GREEN", "GREENIN", "GREENOUT", "GreenToWhite.map", "GREY", "HAWAII", and "HAYSTACK".

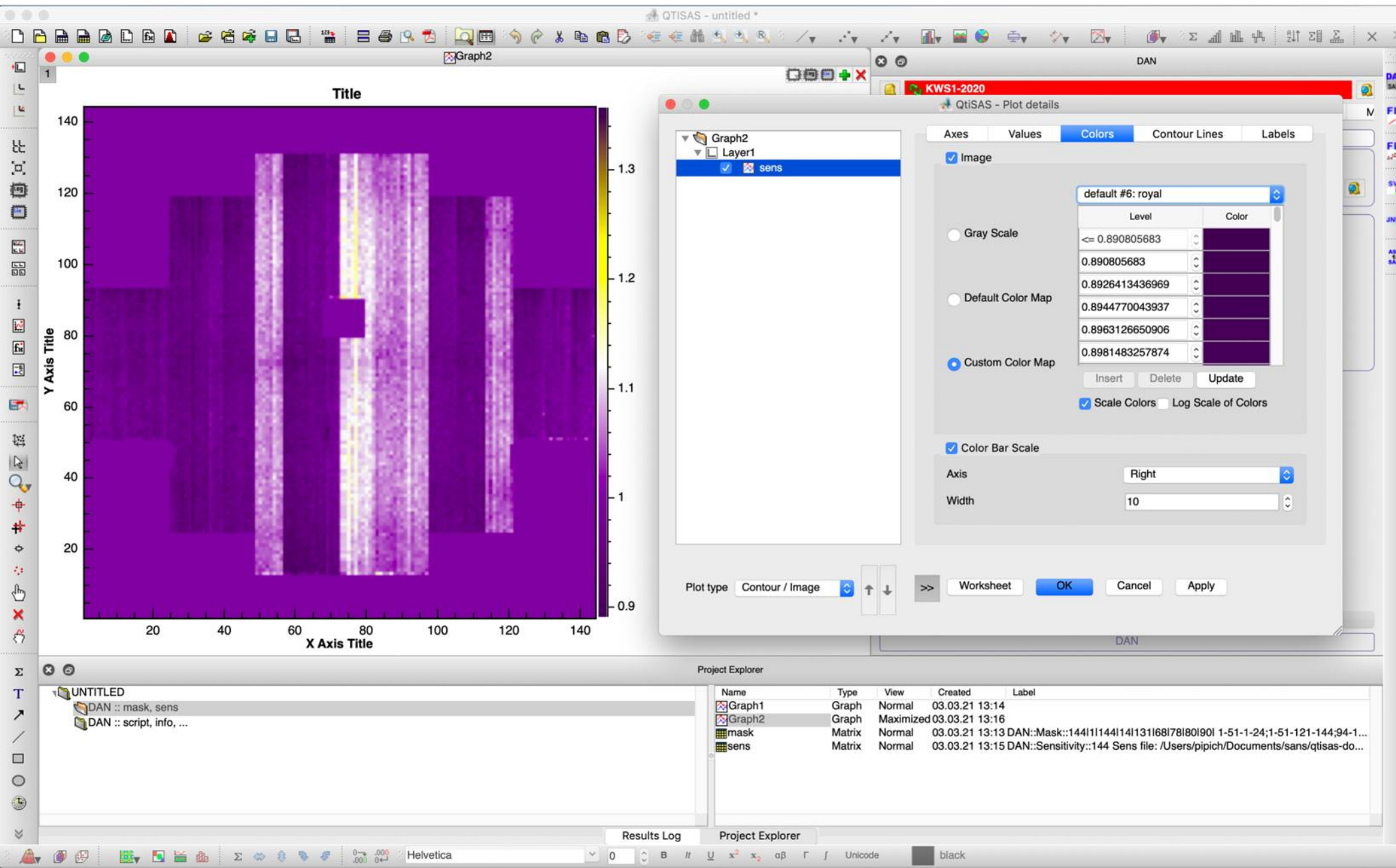
The "Color Bar Scale" is checked, and the "Axis" and "Width" options are visible. The "Plot type" is set to "Contour / Image".

In the background, the "DAN" window is visible, showing a list of data files and a "Sens" file selected. The "Sens" file is listed as "7.sens # Plexiglass [H2O, ...]".

Example: selected “default #3: whiteblack”



Example: selected “default #8: royal”

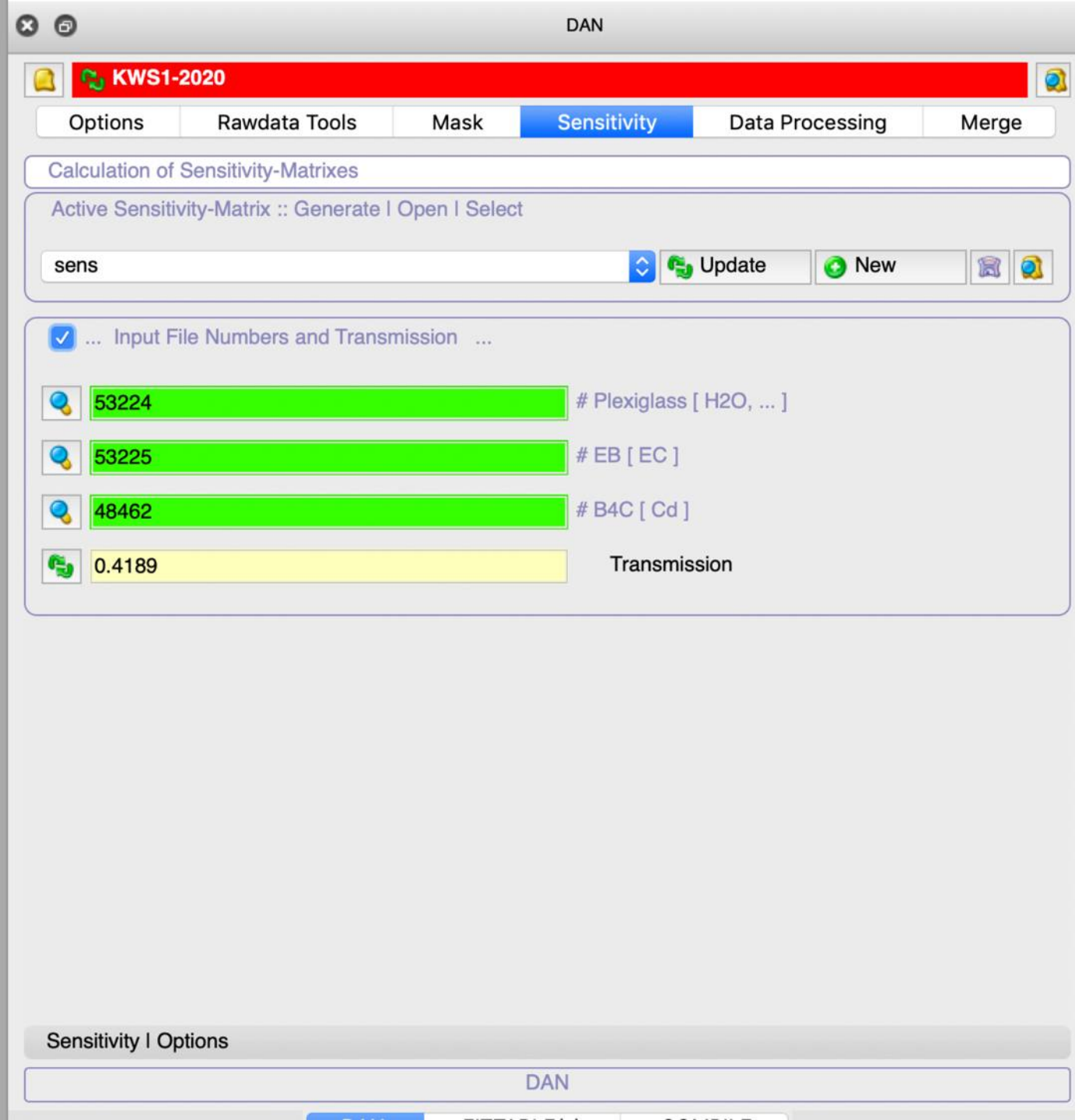


STEP 6b (alternative): Alternative Detector Sensitivity Calculation

Other way to calculate sensitivity:
we could use a Plexiglass (Water) run with good statistics (>20000000 counts).

10	Plexy	out	53224	8	1.980	4.930	50.0x50.0 12.0x12.0	1.05809e+08	900	117566
11	EB	out	53225	8	1.980	4.930	50.0x50.0 12.0x12.0	1.19434e+07	900	13270.4

1	b4c	out	48462	8	3.265	4.930	50.0x50.0 5.0x5.0	28215	43200	0.653125
---	-----	-----	-------	---	-------	-------	-------------------	-------	-------	----------



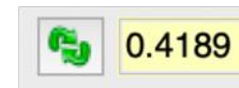
1. Push & Select “Plexiglass” run



2. Push & Select “Empty Beam” run



3. Push & Select “Dark Current” run



4. Push to calculate transmission



5. Push to calculate sensitivity

This is “Alternative Detector Sensitivity Calculation”
In this example we use **STEP 6** method

STEP 7: Filling "Table of Configurations"

DAN-SANS: go to next tab "Data Processing"

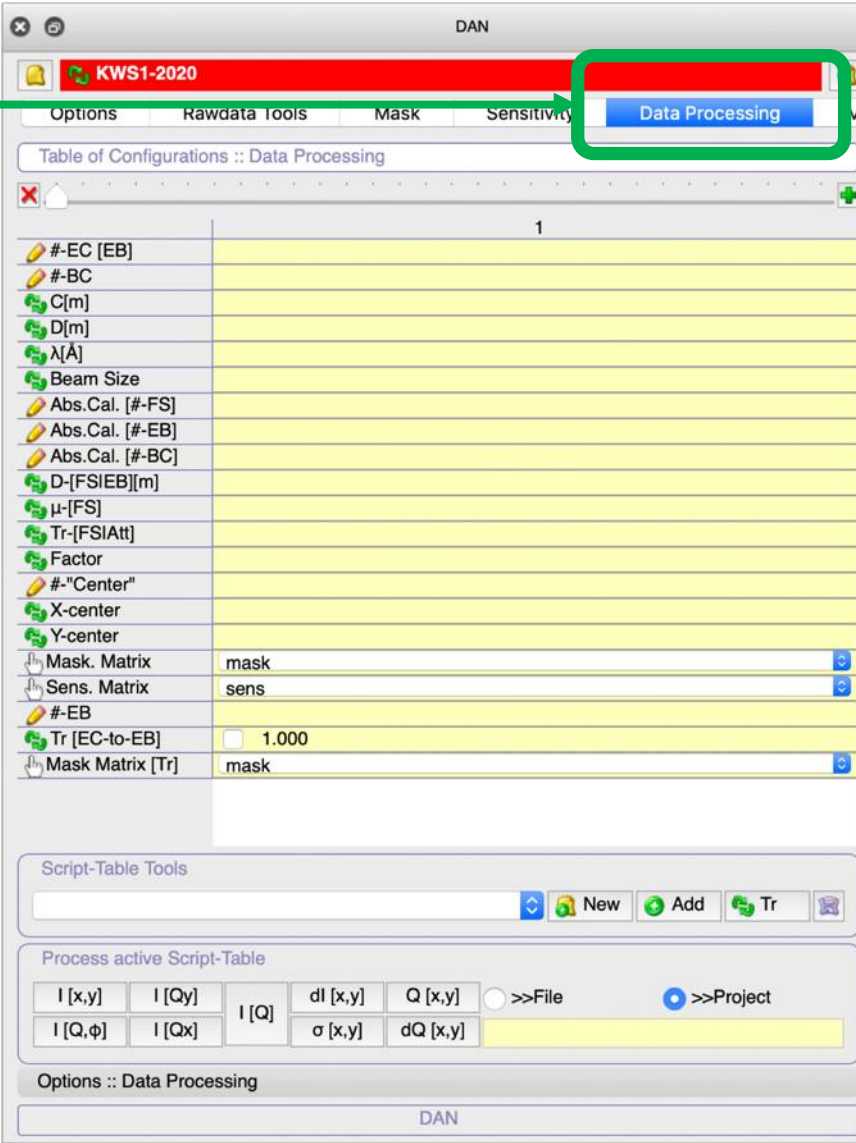
Icons meaning:



Select from list

Input something (type or double click to select)

Calculate/read



Set Number of Instrument Configuration: in this example 3

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

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

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

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

Table of Configurations :: Data Processing

	1	2	3
#-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	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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

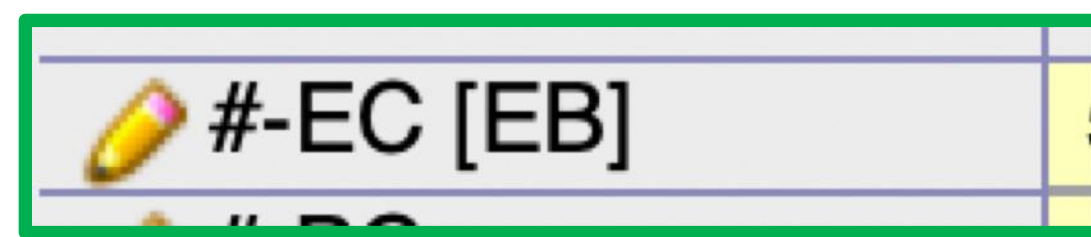
I [Q, ϕ]I [Qx]

σ [x,y]dQ [x,y]

Options :: Data Processing

DAN

Empty Beam/Cell Runs



QTISAS - untitled *

Graph2

Title

Y Axis Title

20

40

60

80

100

120

140

1.3

data

Search

Name

Date Modified

Size

example-kws1_53216_Stan_C20_S2_D0.DAT

example-kws1_53217_Stan_C20_S3_D0.DAT

example-kws1_53218_Stan_C20_S4_D0.DAT

example-kws1_53219_Stan_C20_S5_D0.DAT

example-kws1_53220_Stan_C8_S2_D0.DAT

example-kws1_53221_Stan_C8_S3_D0.DAT

example-kws1_53222_Stan_C8_S4_D0.DAT

example-kws1_53223_Stan_C8_S5_D0.DAT

example-kws1_53224_Stan_C8_S1_D0.DAT

example-kws1_53225_Stan_C8_S2_D0.DAT

example-kws1_53226_Stan_C8_S3_D0.DAT

example-kws1_53227_Stan_C8_S4_D0.DAT

example-kws1_53228_Stan_C8_S5_D0.DAT

example-kws1_53229_Stan_C20_S1_D0.DAT

example-kws1_53230_Stan_C20_S2_D0.DAT

sens-20200117.sens

EB: C20D20

Options

Rawdata Tools

Mask

Sensitivity

Data Processing

Table of Configurations :: Data Processing

1

2

3

mask

sens

1.000

mask

1.000

mask

1.000

Options :: Data Processing

DAN

Project Explorer

UNTITLED

DAN :: mask, sens

DAN :: script, info, ...

Name

Type

View

Created

Label

Graph1

Graph

Normal

03.03.21 13:14

Graph2

Graph

Maximized

03.03.21 13:16

mask

Matrix

Normal

03.03.21 13:13

DAN::Mask::144|11|144|14|131|68|78|80|90| 1-51-1-24;1-51-121-144;94-1...

sens

Matrix

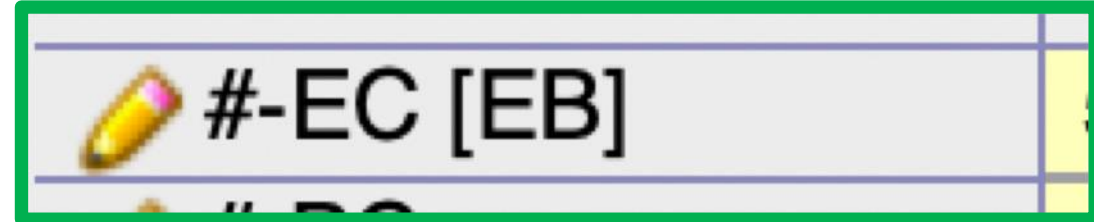
Normal

03.03.21 13:15

DAN::Sensitivity::144 Sens file: /Users/pipich/Documents/sans/qtisas-do...

Double Click

Fill: Empty Beam/Cell Runs



DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing

Table of Configurations :: Data Processing

	cond.-#1	2	3
#-EC [EB]	53216		
#-BC			
C[m]	20		
D[m]	19.680		
λ [Å]	4.930		
Beam Size	50x50l12x12		
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	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	3
#-EC [EB]	53216	53220	
#-BC			
C[m]	20	8	
D[m]	19.680	7.680	
λ [Å]	4.930	4.930	
Beam Size	50x50l12x12	50x50l12x12	
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	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC			
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50l12x12	50x50l12x12	50x50l12x12
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	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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



#-BC

DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing M

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC			
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50l12x12	50x50l12x12	50x50l12x12
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	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing M

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50l12x12	50x50l12x12	50x50l12x12
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	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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: Absolute Calibration Runs

-  Abs.Cal. [#-FS]
-  Abs.Cal. [#-EB]
-  Abs.Cal. [#-BC]

DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing M

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
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	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing M

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FSIEB][m]			
μ -[FS]			
Tr-[FSIAtt]			
Factor			
#-"Center"			
X-center			
Y-center			
Mask Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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

Push :  D-[FSIEB][m] to read “Plexi” to Detector Distances from Headers

DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing M

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#FS]	53229	53224	53224
Abs.Cal. [#BC]	53225	53225	53225
D-[FSIEB][m]			
μ [FS]			
Factor			
#-"Center"			
X-center			
Y-center			
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing M

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#FS]	53229	53224	53224
Abs.Cal. [#EB]	53230	53225	53225
Abs.Cal. [#BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
μ [FS]			
Tr-[FSIAtt]			
Factor			
#-"Center"			
X-center			
Y-center			
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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

 μ -[FS]

	D-[FSIEB][m]
	μ -[FS]
	Tr-[FSIAtt]
	Factor

DAN

KWS1-2020

Options
Rawdata Tools
Mask
Sensitivity
Data Processing

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ[Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
μ-[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FSIAtt]			
Factor			
#-"Center"			
X-center			
Y-center			
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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]

☐ >>File

☒ >>Project

I [Q,φ]

I [Qx]

σ [x,y]

dQ [x,y]

Options :: Data Processing

DAN



to read transmission of “Plexi” for every configuration

	μ -[FS]	5.
	Tr-[FS Att]	
	Factor	
	#-"Center"	

DAN

KWS1-2020

Options
Rawdata Tools
Mask
Sensitivity
Data Processing

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
$\lambda[\text{\AA}]$	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#FS]	53229	53224	53224
Abs.Cal. [#EB]	53230	53225	53225
Abs.Cal. [#BC]	48462	48462	48462
D-[FS EB][m]	1.980	1.980	1.980
μ -[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FS Att]	0.4189	0.4189	0.4189
Factor			
#-"Center"			
X-center			
Y-center			
Mask Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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]

☐ >>File

☒ >>Project

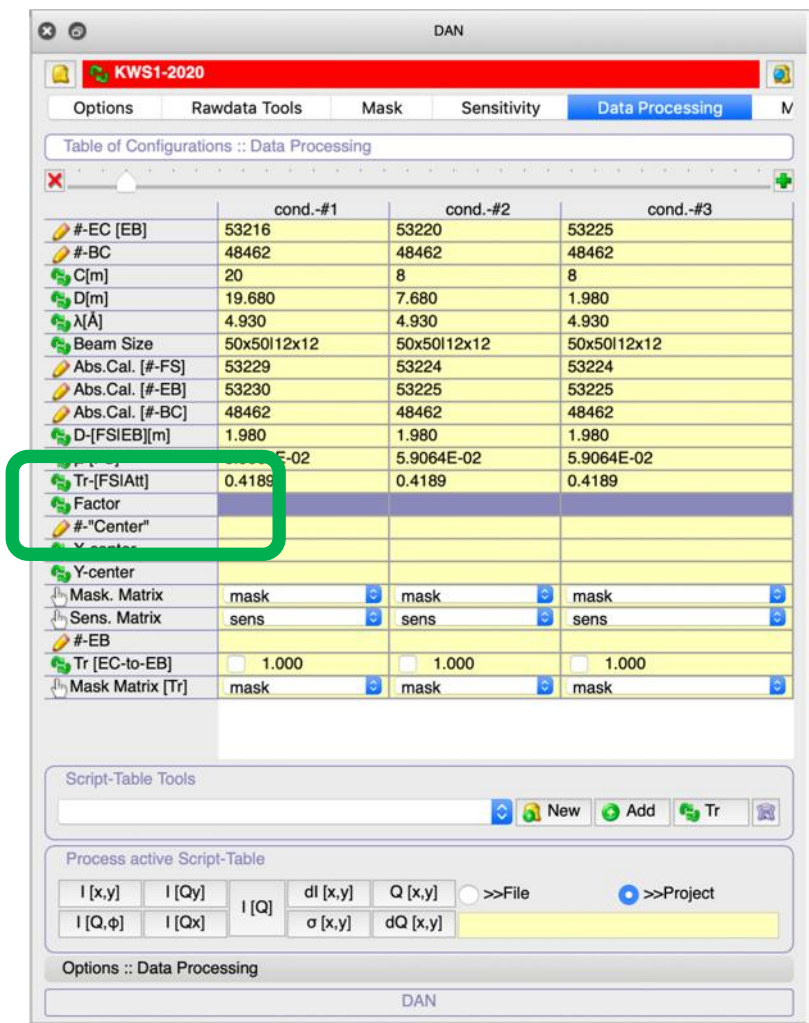
I [Q, ϕ] I [Qx]

σ [x,y] dQ [x,y]

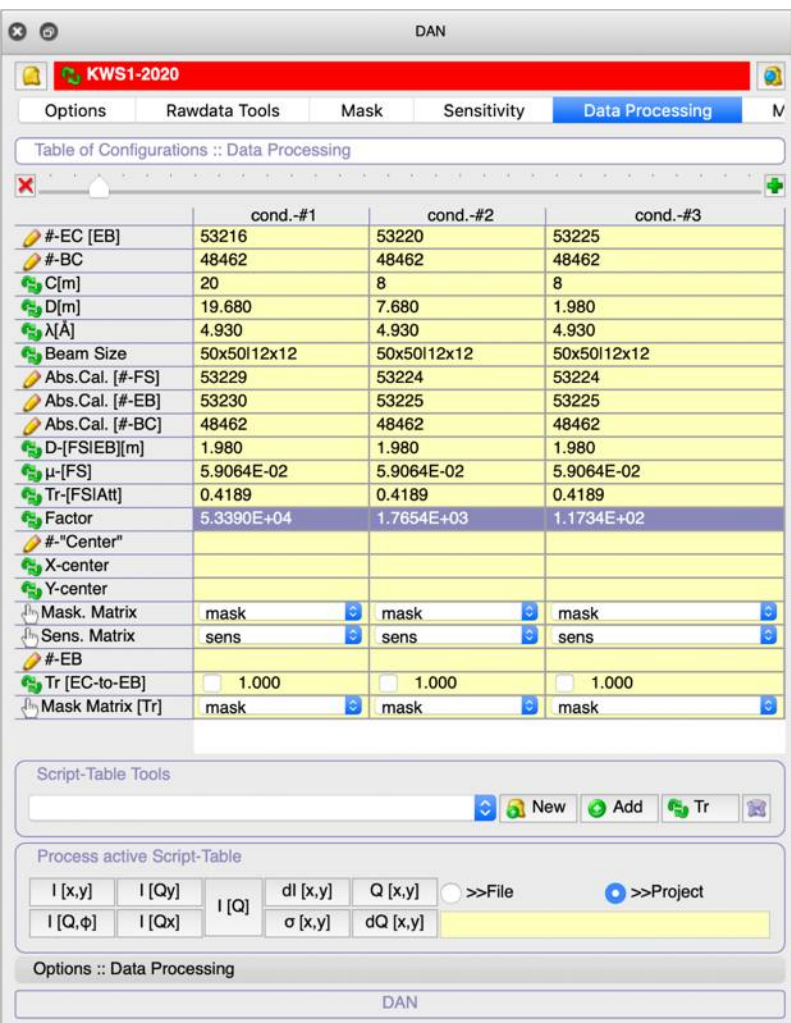
Options :: Data Processing

DAN

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



	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ[Å]	4.930	4.930	4.930
Beam Size	50x50l12x12	50x50l12x12	50x50l12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
Tr-[FSIAtt]	0.4189	0.4189	0.4189
Factor			
#-"Center"			
X-center			
Y-center			
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	1.000	1.000	1.000
Mask Matrix [Tr]	mask	mask	mask



	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ[Å]	4.930	4.930	4.930
Beam Size	50x50l12x12	50x50l12x12	50x50l12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
μ-[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FSIAtt]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"			
X-center			
Y-center			
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	1.000	1.000	1.000
Mask Matrix [Tr]	mask	mask	mask

Results Log

DAN ::
Mask template is created: "mask".
Edge: 1 | 144 | 14 | 131 and Beam-Stop: 68 | 78 | 80 | 90.
DAN :: Abs.Factor | Condition #1 | 5.3390E+04±1.7510E-03
DAN :: Abs.Factor | Condition #2 | 1.7654E+03±2.1178E-05
DAN :: Abs.Factor | Condition #3 | 1.1734E+02±1.4076E-06

Results Log: Output

Fill: “Center”Runs

“Center”Runs: strongly scattering samples (near beam-stop) to calculate beam center positions. Often we use our standard sample “Corundum” as sample to calculate beam center positions.

DAN

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50l12x12	50x50l12x12	50x50l12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
μ -[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FSIAtt]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"			
X-center			
Y-center			
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask	mask

Script-Table Tools

NewAddTr

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

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50l12x12	50x50l12x12	50x50l12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
μ -[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FSIAtt]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center			
Y-center			
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask	mask

Script-Table Tools

NewAddTr

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

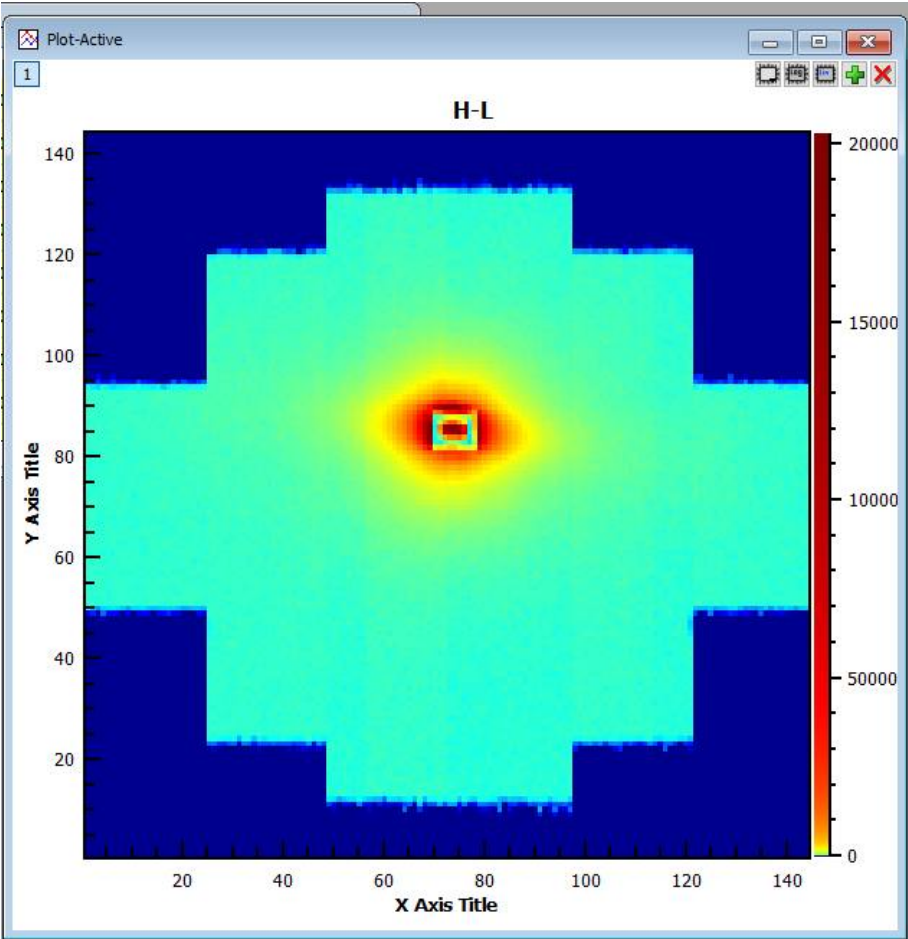
DAN

 #-"Center"

We use “H-L” sample as “Center” runs

Fill: “Center ”Runs

“Center ”Runs: strongly scattering samples (near beam-stop) to calculate beam center positions. One can use a typical user sample which scatters sufficiently around the beam stop. This can be checked in Rawdata Tools tab/Fast Info Extractor/Plot Matrix [Plot Active].



DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

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 Table Merge

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

columns: 3

Mask Sens Norm ROI Ascii

:: Fast Info Extractor ::

Plot Matrix [Plot-Active]

53222 53222

53219

53220

53221

53222

53223

53224

53225

53226

53227

53228

Extract

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

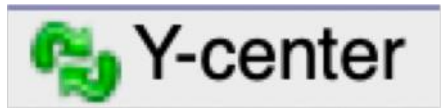
TOF :: KWS-1&2 :: Time Of Flight Tools

DAN

Push :

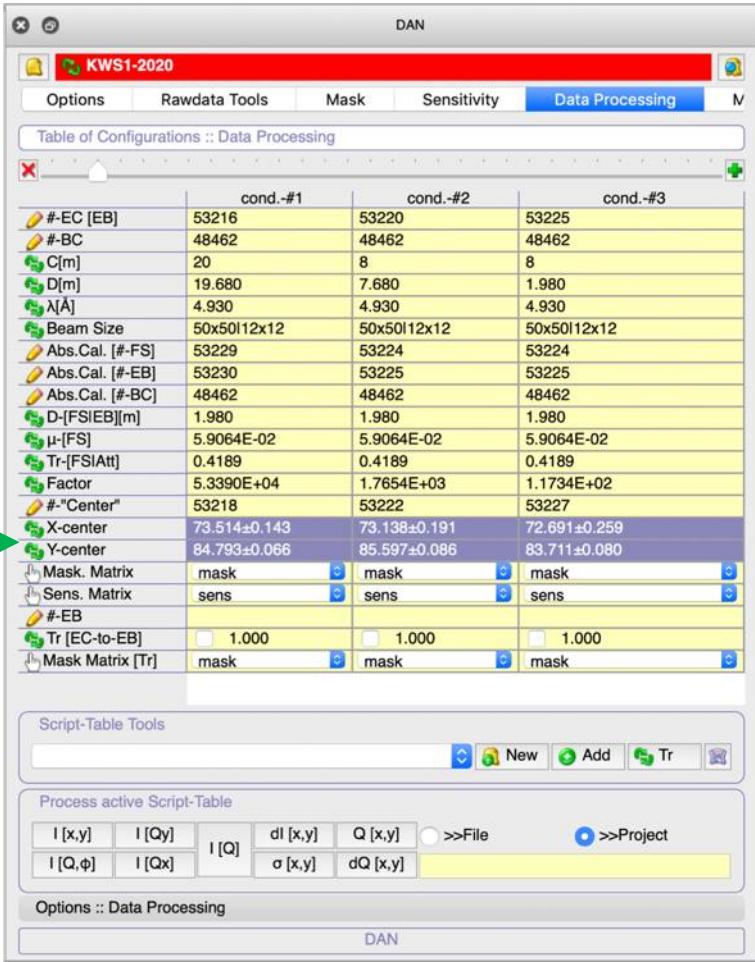
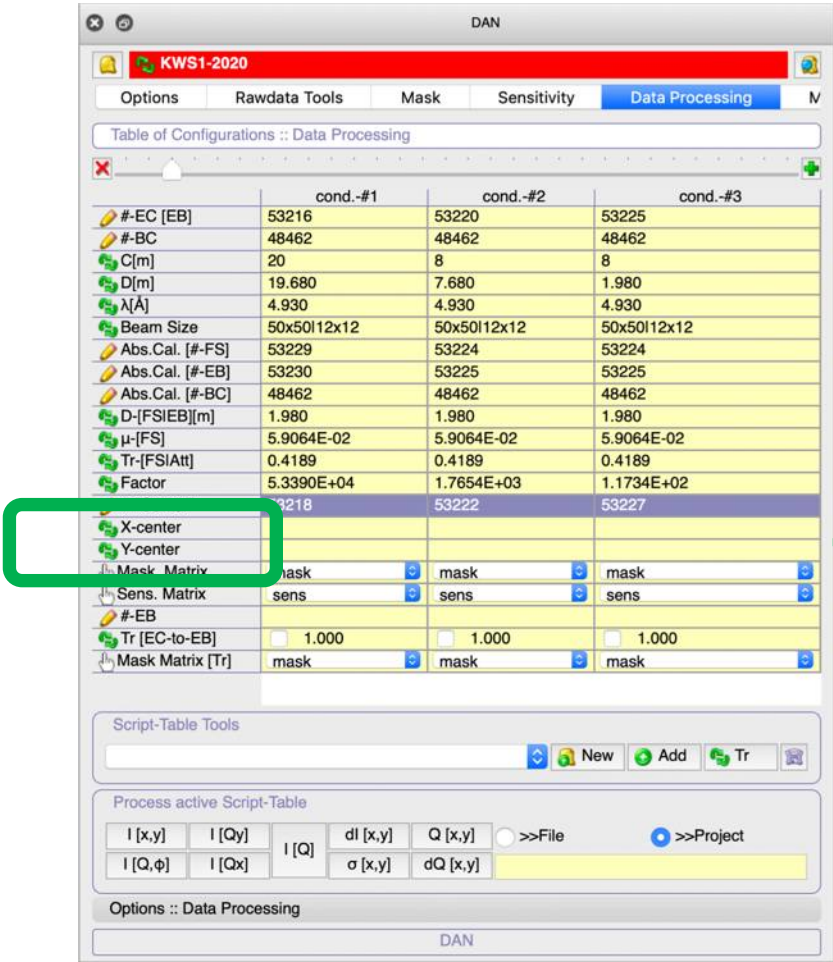


or/and



to calculate center of the beam for all configurations

73.514±0.143	73.138±0.191	72.691±0.259
84.793±0.066	85.597±0.086	83.711±0.080



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

Mask. Matrix

Sens. Matrix

Select correct “Sensitivity” and “Mask” Matrixes

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData Processing

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FS EB][m]	1.980	1.980	1.980
μ -[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FS Att]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.259
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000	<input type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	mask	mask

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

Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens

“Mask” and “Sens” matrixes could be different for different configurations

Fill: **Empty beam** runs.

To calculate Transmission of Empty Cell

In this example: $EC=EB$, $Tr(EC)=1$



#-EB

DAN

KWS1-2020

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

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FS EB][m]	1.980	1.980	1.980
μ [FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FS Att]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.259
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB			
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.000	<input checked="" type="checkbox"/> 1.000	<input checked="" type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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

KWS1-2020

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

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FS EB][m]	1.980	1.980	1.980
μ [FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FS Att]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.259
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB	53216	53220	53225
Tr [EC-to-EB]	<input checked="" type="checkbox"/> 1.000	<input checked="" type="checkbox"/> 1.000	<input checked="" type="checkbox"/> 1.000
Mask Matrix [Tr]	mask	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

Select configuration will be used for transmission calculations.
At KWS-1 normally we use C8D8 configuration for transmission calculations

DAN

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FS EB][m]	1.980	1.980	1.980
μ -[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FS Att]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.255
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB	53216	53220	53225
Tr [EC-to-EB]	<input type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000	<input type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask	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

C8D8

☐ 1.0000☒ 1.0000☐ 1.0000

Push :  to calculate transmission of Empty Cell (to Empty beam)

DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FS EB][m]	1.980	1.980	1.980
μ -[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FS Att]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.259
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB	53216	53220	53225
Tr [EC-to-EB]	<input type="checkbox"/> 0.0000	<input checked="" type="checkbox"/> 1.0000	<input type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask	mask	mask

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

! In this example EC=EB & Tr(EC-to-EB)=1 !

STEP 8: Creation of “Table of Samples”

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

DAN

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50l12x12	50x50l12x12	50x50l12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
μ -[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FSIAtt]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.259
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB	53216	53220	53225
Tr [EC-to-EB]	<input type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000	<input type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask	mask	mask

Script-Table Tools

New

Add

Tr

Process active Script-Table

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

dl [x,y]Q [x,y]

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

CancelOK

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

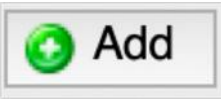
The screenshot displays the QTISAS software interface. The main window is titled 'DAN' and shows a 'Table of Configurations :: Data Processing'. The table lists various parameters for three conditions (cond.-#1, cond.-#2, cond.-#3). The 'Script-Table Tools' section at the bottom right includes buttons for 'New', 'Add', and 'Tr'. The 'Process active Script-Table' section shows input fields for 'I [x,y]', 'I [Qy]', 'I [Q]', 'dI [x,y]', 'Q [x,y]', 'I [Q,φ]', 'I [Qx]', 'σ [x,y]', and 'dQ [x,y]'. The 'Options :: Data Processing' section is also visible.

The 'Project Explorer' at the bottom shows a tree structure with the following items:

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

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

Push :



To add files for data reduction

QTISAS - untitled *

script - DAN::Script::Table

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

DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing M

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FS EB][m]	1.980	1.980	1.980
μ -[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FS Att]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.259
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB	53216	53220	53225
Tr [EC-to-EB]	<input type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000	<input type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask	mask	mask

Script-Table Tools

script

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 :: script, info, ...

Name	Type	View	Created	Label
info-table	Table	Normal	03.03.21 12:36	Info::Table
script	Table	Maximized	03.03.21 14:10	DAN::Script::Table
script-Settings	Table	Hidden	03.03.21 14:10	DAN::Settings::Table

Project Explorer Results Log

Helvetica

Selecting of files for data reduction

script - DAN::Script::Table

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

data

Search

Name	Date Modified	Size
48462_Stan_C8_S4_D0.DAT	17. Mar 2020 at 10:22	658 KB
example-kws1_53216_Stan_C20_S2_D0.DAT	Today at 12:19	658 KB
example-kws1_53217_Stan_C20_S3_D0.DAT	Today at 12:20	658 KB
example-kws1_53218_Stan_C20_S4_D0.DAT	Today at 12:20	658 KB
example-kws1_53219_Stan_C20_S5_D0.DAT	Today at 12:20	658 KB
example-kws1_53220_Stan_C8_S2_D0.DAT	Today at 12:21	658 KB
example-kws1_53221_Stan_C8_S3_D0.DAT	Today at 12:21	658 KB
example-kws1_53222_Stan_C8_S4_D0.DAT	Today at 12:21	658 KB
example-kws1_53223_Stan_C8_S5_D0.DAT	Today at 12:22	658 KB
example-kws1_53224_Stan_C8_S1_D0.DAT	Today at 12:22	658 KB
example-kws1_53225_Stan_C8_S2_D0.DAT	Today at 12:22	658 KB
example-kws1_53226_Stan_C8_S3_D0.DAT	Today at 12:23	658 KB
example-kws1_53227_Stan_C8_S4_D0.DAT	Today at 12:23	658 KB
example-kws1_53228_Stan_C8_S5_D0.DAT	Today at 12:23	658 KB
example-kws1_53229_Stan_C20_S1_D0.DAT	Today at 12:23	658 KB
example-kws1_53230_Stan_C20_S2_D0.DAT	Today at 12:24	658 KB
sens-20200117.sens	17. Mar 2020 at 10:28	311 KB

CancelOpen

DAN

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingM

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
A[A]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
μ -[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FSIAtt]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.259
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB	53216	53220	53225
Tr [EC-to-EB]	<input type="checkbox"/> 1.0000	<input type="checkbox"/> 1.0000	<input type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask	mask	mask

Script-Table Tools

scriptNewAddTr

Process active Script-Table

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

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

I [Q, ϕ]I [Qx] σ [x,y]dQ [x,y]

Options :: Data ProcessingDAN

Project Explorer

Name	Type	View	Created	Label
UNTITLED				
DAN :: mask, sens	Table	Normal	03.03.21 12:36	Info::Table
DAN :: script, info, ...	Table	Maximized	03.03.21 14:10	DAN::Script::Table
script-Settings	Table	Hidden	03.03.21 14:10	DAN::Settings::Table

Project ExplorerResults Log

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

QTISAS - untitled *

script - DAN::Script::Table

	Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness	Tr
1	H-J	53217	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100	0.9
2	H-L	53218	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100	0.8
3	H-M	53219	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100	0.9
4	H-J	53221	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100	0.9
5	H-L	53222	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100	0.8
6	H-M	53223	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100	0.9
7	H-J	53226	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100	0.9
8	H-L	53227	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100	0.8
9	H-M	53228	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100	0.9

DAN

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ[Å]	4.930	4.930	4.930
Beam Size	50x50l12x12	50x50l12x12	50x50l12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
μ-[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FSIAtt]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.259
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB	53216	53220	53225
Tr [EC-to-EB]	<input type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000	<input type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask	mask	mask

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 :: I [Q]DAN :: mask, sensDAN :: script, info, ...

Name	Type	View	Created	Label
info-table	Table	Normal	03.03.21 12:36	Info::Table
script	Table	Maximized	03.03.21 14:10	DAN::Script::Table
script-mergingTemplate	Table	Normal	03.03.21 14:45	DAN::Merging::Template
script-Settings	Table	Normal	03.03.21 14:10	DAN::Settings::Table

“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	Status
1	H-J	53217	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9061 [±0.0012]	53390	73.514	84.793	mask	sens	
2	H-L	53218	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.8981 [±0.0012]	53390	73.514	84.793	mask	sens	
3	H-M	53219	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9019 [±0.0012]	53390	73.514	84.793	mask	sens	
4	H-J	53221	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9061 [±0.0012]	1765.4	73.138	85.597	mask	sens	
5	H-L	53222	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.8981 [±0.0012]	1765.4	73.138	85.597	mask	sens	
6	H-M	53223	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9019 [±0.0012]	1765.4	73.138	85.597	mask	sens	
7	H-J	53226	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9061 [±0.0012]	117.34	72.691	83.711	mask	sens	
8	H-L	53227	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.8981 [±0.0012]	117.34	72.691	83.711	mask	sens	
9	H-M	53228	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9019 [±0.0012]	117.34	72.691	83.711	mask	sens	

“Script” table structure

script - DAN::Script::Table

1	Run-info	2: I _{sample}	3	#-Run[X]	4	#-Condition	5	C	6: λ	7	D	8: I _{BC}	9: I _{EC}	10: d	11: Tr	12: AC _{factor}	13: X _{center}	14: Y _{center}	15: mask	16: sens	17	Status
1	H-J	53217	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100	0.9061 [±0.0012]	53390	73.514	84.793	mask	sens						
2	H-L	53218	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100	0.8981 [±0.0012]	53390	73.514	84.793	mask	sens						
3	H-M	53219	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100	0.9019 [±0.0012]	53390	73.514	84.793	mask	sens						
4	H-J	53221	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100	0.9061 [±0.0012]	1765.4	73.138	85.597	mask	sens						
5	H-L	53222	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100	0.8981 [±0.0012]	1765.4	73.138	85.597	mask	sens						
6	H-M	53223	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100	0.9019 [±0.0012]	1765.4	73.138	85.597	mask	sens						
7	H-J	53226	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100	0.9061 [±0.0012]	117.34	72.691	83.711	mask	sens						
8	H-L	53227	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100	0.8981 [±0.0012]	117.34	72.691	83.711	mask	sens						
9	H-M	53228	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100	0.9019 [±0.0012]	117.34	72.691	83.711	mask	sens						

1. Sample Name column: for smooth merging and correct transmission calculations the name of a sample should be the same in all instrument configurations. Example: “H-J” name is the same for #53217, #53221, #53226 runs... Sample name could be edited in this 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: I_{sample}	3	4	5	6: λ	7	8: I_{BC}	9: I_{EC}	10: d	11: Tr	12: $\text{AC}_{\text{factor}}$	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	Status
1 H-J	53217	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9061 [± 0.0012]	53390	73.514	84.793	mask	sens	
2 H-L	53218	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.8981 [± 0.0012]	53390	73.514	84.793	mask	sens	
3 H-M	53219	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9019 [± 0.0012]	53390	73.514	84.793	mask	sens	
4 H-J	53221	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9061 [± 0.0012]	1765.4	73.138	85.597	mask	sens	
5 H-L	53222	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.8981 [± 0.0012]	1765.4	73.138	85.597	mask	sens	
6 H-M	53223	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9019 [± 0.0012]	1765.4	73.138	85.597	mask	sens	
7 H-J	53226	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9061 [± 0.0012]	117.34	72.691	83.711	mask	sens	
8 H-L	53227	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.8981 [± 0.0012]	117.34	72.691	83.711	mask	sens	
9 H-M	53228	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9019 [± 0.0012]	117.34	72.691	83.711	mask	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 “ $\text{AC}_{\text{factor}}$ ”

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
1	H-J	53217	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9061 [±0.0012]	53390	73.514	84.793	mask	sens
2	H-L	53218	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.8981 [±0.0012]	53390	73.514	84.793	mask	sens
3	H-M	53219	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9019 [±0.0012]	53390	73.514	84.793	mask	sens
4	H-J	53221	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9061 [±0.0012]	1765.4	73.138	85.597	mask	sens
5	H-L	53222	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.8981 [±0.0012]	1765.4	73.138	85.597	mask	sens
6	H-M	53223	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9019 [±0.0012]	1765.4	73.138	85.597	mask	sens
7	H-J	53226	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9061 [±0.0012]	117.34	72.691	83.711	mask	sens
8	H-L	53227	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.8981 [±0.0012]	117.34	72.691	83.711	mask	sens
9	H-M	53228	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9019 [±0.0012]	117.34	72.691	83.711	mask	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 HEADERS**

“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	Status
1	H-J	53217	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9061 [±0.0012]	53390	73.514	84.793	mask	sens	
2	H-L	53218	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.8981 [±0.0012]	53390	73.514	84.793	mask	sens	
3	H-M	53219	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9019 [±0.0012]	53390	73.514	84.793	mask	sens	
4	H-J	53221	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9061 [±0.0012]	1765.4	73.138	85.597	mask	sens	
5	H-L	53222	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.8981 [±0.0012]	1765.4	73.138	85.597	mask	sens	
6	H-M	53223	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9019 [±0.0012]	1765.4	73.138	85.597	mask	sens	
7	H-J	53226	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9061 [±0.0012]	117.34	72.691	83.711	mask	sens	
8	H-L	53227	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.8981 [±0.0012]	117.34	72.691	83.711	mask	sens	
9	H-M	53228	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9019 [±0.0012]	117.34	72.691	83.711	mask	sens	

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

+ Wide Angle corrections



pixel_{size} = 0.836cm

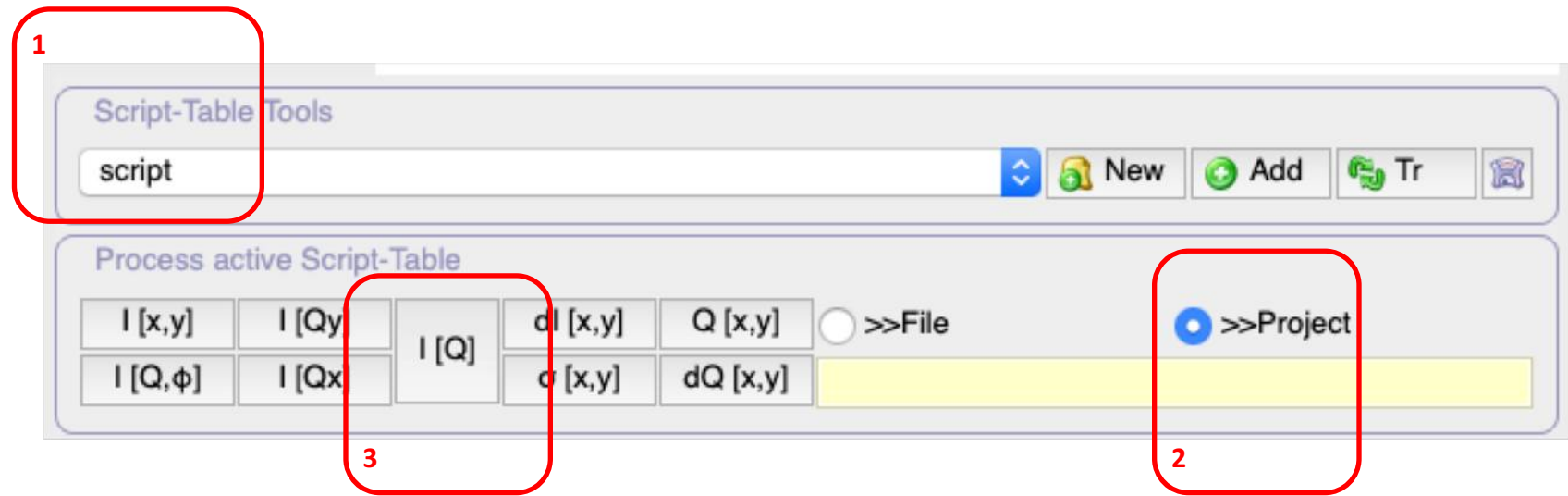
[Options | SA(N)S Instrument::Configuration | Detector Image]

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

“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;
- $I[Q,\phi]$ for matrix generation in Polar coordinates;
- $I[Qx]$ or $I[Qz]$ for horizontal or vertical slices;
- $dI[x,y]$, $Q[x,y]$, $dQ[x,y]$, $\sigma[x,y]$ 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;

Many options of the data processing are „hidden“ in “Options :: Data Processing” tab (not explained here):



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

QTISAS - untitled *

QI-SM-53228-H-M - H-M QI-SM-53227-H-L - H-L QI-SM-53226-H-J - H-J

	Q[X]	I[Y]	dl[yEr]
1	2.69011888E-02	1.80945959E-01	1.896E
2	3.22790539E-02	2.08966398E-01	1.152E
3	3.76556258E-02	1.94928830E-01	7.996E
4	4.30306897E-02	1.71220282E-01	6.799E
5	4.84040310E-02	1.44938536E-01	5.750E
6	5.37754359E-02	1.32932236E-01	5.328E
7	5.91446906E-02	1.22844285E-01	5.032E
8	6.45115821E-02	1.16527376E-01	4.583E

QI-SM-53223-H-M - H-M QI-SM-53222-H-L - H-L QI-SM-53221-H-J - H-J

	Q[X]	I[Y]	dl[yEr]
1	6.93654466E-03	1.89534916E+01	1.338
2	8.32381290E-03	2.60815050E+01	4.307
3	9.71105896E-03	1.13160212E+01	1.820
4	1.10982791E-02	6.19565965E+00	1.162
5	1.24854697E-02	3.91495450E+00	8.847
6	1.38726270E-02	2.56129489E+00	6.499
7	1.52597473E-02	1.89636097E+00	5.703
8	1.66468270E-02	1.42844211E+00	4.618

QI-SM-53219-H-M - H-M QI-SM-53218-H-L - H-L QI-SM-53217-H-J - H-J

	Q[X]	I[Y]	dl[yEr]
1	2.70696975E-03	1.21514471E+03	6.645
2	3.24836128E-03	4.27529959E+02	9.480
3	3.78975149E-03	3.13718482E+02	5.450
4	4.33114016E-03	1.68313087E+02	3.297
5	4.87252708E-03	9.96344028E+01	2.326
6	5.41391202E-03	6.56511678E+01	1.841
7	5.95529476E-03	4.63573255E+01	1.493
8	6.49667508E-03	3.25053660E+01	1.160

DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ[A]	4.930	4.930	4.930
Beam Size	50x50112x12	50x50112x12	50x50112x12
Abs.Cal. [#FS]	53229	53224	53224
Abs.Cal. [#EB]	53230	53225	53225
Abs.Cal. [#BC]	48462	48462	48462
D-[FSI]EB[m]	1.980	1.980	1.980
μ-[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FSIAtt]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.259
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask. Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB	53216	53220	53225
Tr [EC-to-EB]	<input type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000	<input type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask	mask	mask

Script-Table Tools

script New Add Tr

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

UNTITLED

- DAN :: I [Q]
- DAN :: mask, sens










Project Explorer

Name	Type	View	Created	Label
QI-SM-53217-H-J	Table	Normal	03.03.21 14:45 H-J	
QI-SM-53218-H-L	Table	Normal	03.03.21 14:45 H-L	
QI-SM-53219-H-M	Table	Normal	03.03.21 14:45 H-M	
QI-SM-53221-H-J	Table	Normal	03.03.21 14:45 H-J	
QI-SM-53222-H-L	Table	Normal	03.03.21 14:45 H-L	

Project Explorer Results Log

Default Table's name Format

Project Explorer

Name	Type	View	Created	Label
 QI-SM-53217-H-J	Table	Normal	03.03.21 14:45	H-J
 QI-SM-53218-H-L	Table	Normal	03.03.21 14:45	H-L
 QI-SM-53219-H-M	Table	Normal	03.03.21 14:45	H-M
 QI-SM-53221-H-J	Table	Normal	03.03.21 14:45	H-J
 QI-SM-53222-H-L	Table	Normal	03.03.21 14:45	H-L
 QI-SM-53223-H-M	Table	Normal	03.03.21 14:45	H-M
 QI-SM-53226-H-J	Table	Normal	03.03.21 14:45	H-J
 QI-SM-53227-H-L	Table	Normal	03.03.21 14:45	H-L
 QI-SM-53228-H-M	Table	Normal	03.03.21 14:45	H-M

QI-SM-#####-SampleName

QI: radial av. Mode

SM: “Standard” Mode

#####: run number

SampleName: Sample Name 😊

Example of Plotting of Radial Averaged Datasets

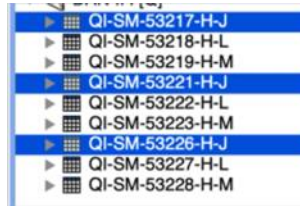
Plotting example:

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



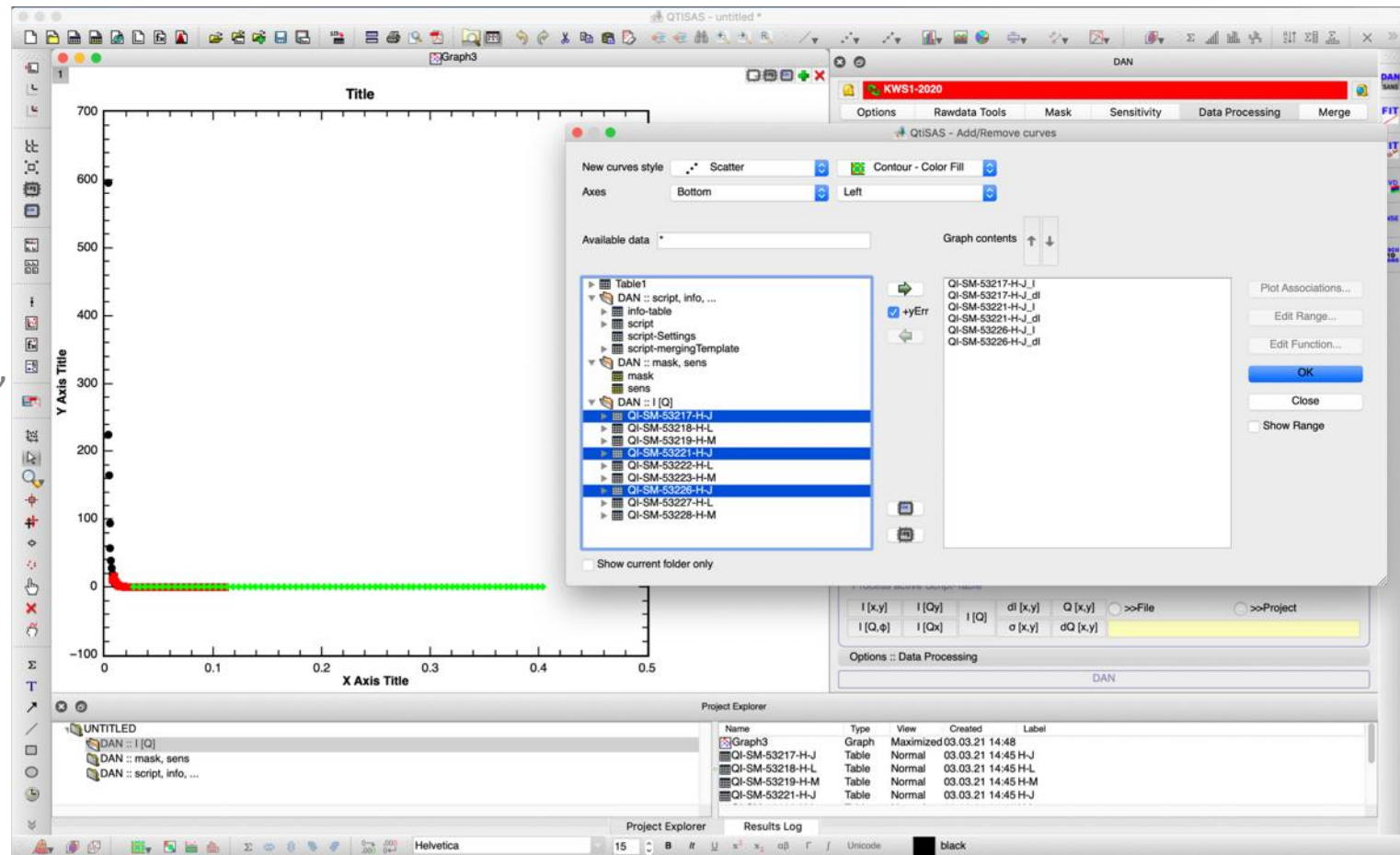
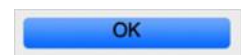
5. Push "Add" button:



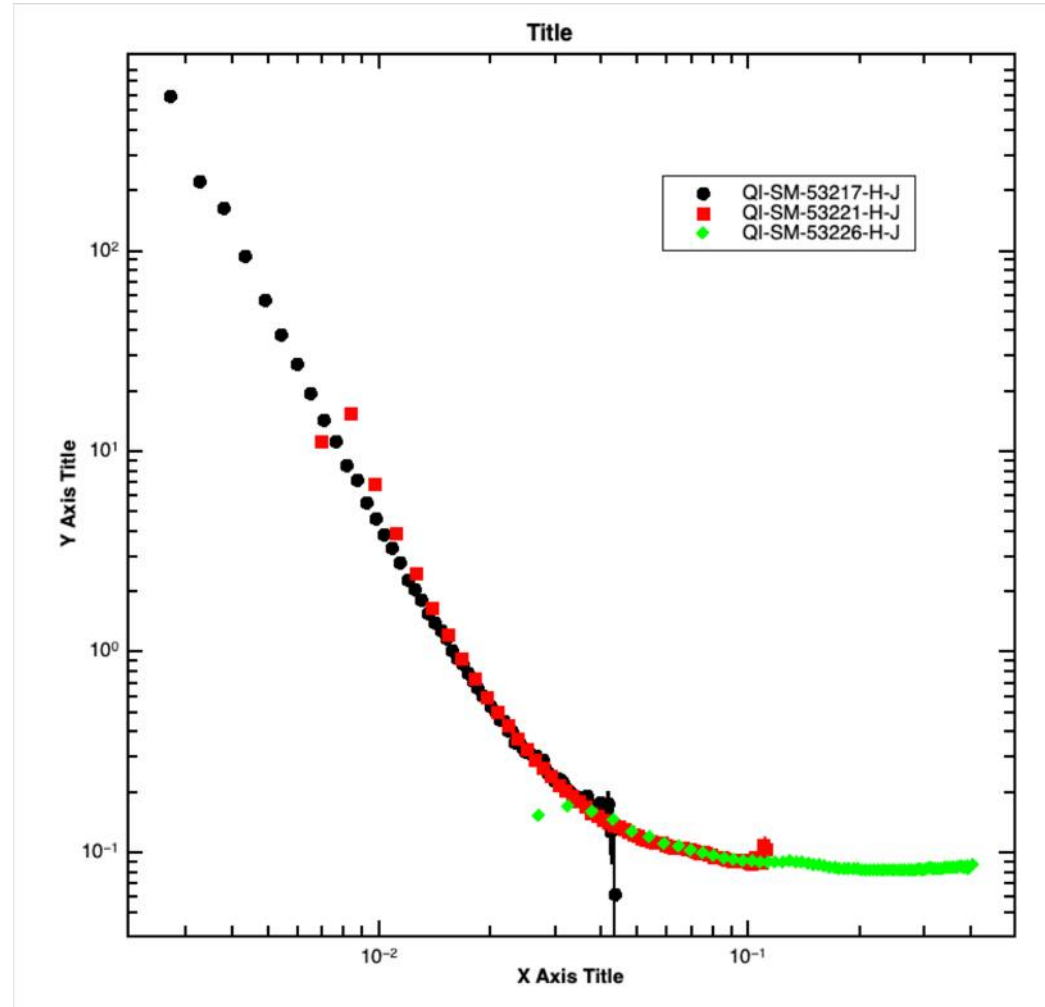
6 (optional). Push "log" for double-logarithmic presentation



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



Plotting example: result



STEP 10: Data Merging

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

The screenshot displays the QTISAS software interface. The main window is titled "script-mergingTemplate - DAN::Merging::Template" and contains a table with 4 columns: 1[X], 2[Y], 3[Y], and 4[Y]. The table has 3 rows of data.

The right panel, titled "DAN", shows the "Merge" tab selected. The "Merge" button is highlighted with a green box. The "Merging Options" section includes:

- Number of tables for merging: 0
- Number of table-sets for merging: 0
- Overlap control: 30%
- Filter (Wild Card): *
- Indexing [Output]: ☐
- Smart merging: ☐
- Reference column: 1
- normalization: Const
- (plus) left-side points: 0
- (plus) right-side points: 0
- scale error-bars too: ☐

The "Read from active Table" and "Save as a new Table" sections are visible. The "After Merging" section shows "remove first: 0 points" and "remove last: 0 points". The "Merge [project]" and "Merge [ascii]" buttons are also present.

The bottom panel, titled "Project Explorer", shows a list of files and folders. The "DAN :: mask, sens" and "DAN :: script, info, ..." folders are highlighted with a green box. The "script-mergingTemplate" file is also highlighted with a green box.

1[X]	2[Y]	3[Y]	4[Y]
1 H-J	QI-SM-53217-H-J	QI-SM-53221-H-J	QI-SM-53226-H-J
2 H-L	QI-SM-53218-H-L	QI-SM-53222-H-L	QI-SM-53227-H-L
3 H-M	QI-SM-53219-H-M	QI-SM-53223-H-M	QI-SM-53228-H-M

Name	Type	View	Created	Label
info-table	Table	Normal	03.03.21 12:36	Info::Table
script	Table	Normal	03.03.21 14:10	DAN::Script::Table
script-mergingTemplate	Table	Maximized	03.03.21 14:45	DAN::Merging::Template
script-Settings	Table	Normal	03.03.21 14:10	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 4 columns (1[X], 2[Y], 3[Y], 4[Y]) and 3 rows of data. The 'Merge' dialog box is open, showing 'Merging Options' and 'Smart merging' settings. A green box highlights the 'Read from active Table' button. The 'Project Explorer' at the bottom shows the project structure, including 'DAN :: I [Q]', 'DAN :: mask, sens', and 'DAN :: script, info, ...'.

Table Data:

	1[X]	2[Y]	3[Y]	4[Y]
1	H-J	QI-SM-53217-H-J	QI-SM-53221-H-J	QI-SM-53226-H-J
2	H-L	QI-SM-53218-H-L	QI-SM-53222-H-L	QI-SM-53227-H-L
3	H-M	QI-SM-53219-H-M	QI-SM-53223-H-M	QI-SM-53228-H-M

Merging Options:

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

Smart merging:

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

Buttons:

- Read from active Table (highlighted with a green box)
- Save as a new Table

Project Explorer:

Name	Type	View	Created	Label
info-table	Table	Normal	03.03.21 12:36	Info::Table
script	Table	Normal	03.03.21 14:10	DAN::Script::Table
script-mergingTemplate	Table	Maximized	03.03.21 14:45	DAN::Merging::Template
script-Settings	Table	Normal	03.03.21 14:10	DAN::Settings::Table

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

The screenshot shows the DAN software interface. The main window displays a table with 4 columns (1[X], 2[Y], 3[Y], 4[Y]) and 3 rows of data. The right panel shows the 'Merge' tab with various options. The 'Merge [project]' button is highlighted with a green box. The bottom panel shows the 'Project Explorer' with a list of files.

Table 1: Data from the main window

	1[X]	2[Y]	3[Y]	4[Y]
1	H-J	QI-SM-53217-H-J	QI-SM-53221-H-J	QI-SM-53226-H-J
2	H-L	QI-SM-53218-H-L	QI-SM-53222-H-L	QI-SM-53227-H-L
3	H-M	QI-SM-53219-H-M	QI-SM-53223-H-M	QI-SM-53228-H-M

Table 2: Merging Options

Option	Value
Number of tables for merging	3
Number of table-sets for merging	3
Overlap control	30%
Filter (Wild Card)	*
Indexing [Output]	<input type="checkbox"/>
Smart merging	<input type="checkbox"/>
Reference column	1
normalization	Const
(plus) left-side points	0
(plus) right-side points	0
scale error-bars too	<input type="checkbox"/>

Table 3: Read from active Table

New Table Name	Q-Range-1	Q-Range-2	Q-Range-3
1 H-J	QI-SM-5321	QI-SM-5322	QI-SM-5322
2 H-L	QI-SM-5321	QI-SM-5322	QI-SM-5322
3 H-M	QI-SM-5321	QI-SM-5322	QI-SM-5322

Table 4: Project Explorer

Name	Type	View	Created	Label
info-table	Table	Normal	03.03.21 12:36	Info::Table
script	Table	Normal	03.03.21 14:10	DAN::Script::Table
script-mergingTemplate	Table	Maximized	03.03.21 14:45	DAN::Merging::Template
script-Settings	Table	Normal	03.03.21 14:10	DAN::Settings::Table

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

H-J - Merged Tables >> QI-SM-53217-H-J, QI-SM-53221-H-J, QI-SM-53226-H-J

	Q[X]	I[Y]	dI[yEr]	Sigma[xEr]
1	2.706970E-03	5.958568E+02	4.594410E+00	1.453703E-03
2	3.248361E-03	2.243431E+02	6.854098E-01	1.455701E-03
3	3.789751E-03	1.655166E+02	3.948253E-01	1.458059E-03
4	4.331140E-03	9.433806E+01	2.465308E-01	1.460775E-03
5	4.872527E-03	5.745919E+01	1.768180E-01	1.463847E-03
6	5.413912E-03	3.868344E+01	1.415649E-01	1.467273E-03
7	5.955295E-03	2.764908E+01	1.156358E-01	1.471050E-03
8	6.496675E-03	1.967770E+01	9.047834E-02	1.475176E-03
9	7.038053E-03	1.443091E+01	7.494643E-02	1.479647E-03
10	7.579428E-03	1.137449E+01	6.441464E-02	1.484462E-03
11	8.120799E-03	8.607297E+00	5.452158E-02	1.489615E-03
12	8.662168E-03	7.218709E+00	4.936526E-02	1.495104E-03
13	9.203533E-03	5.556774E+00	4.068226E-02	1.500925E-03
14	9.744894E-03	4.636202E+00	3.722305E-02	1.507074E-03
15	1.028625E-02	3.854444E+00	3.387287E-02	1.513547E-03
16	1.082760E-02	3.300513E+00	3.027671E-02	1.520341E-03
17	1.136895E-02	2.826238E+00	2.760764E-02	1.527450E-03
18	1.191030E-02	2.309720E+00	2.369389E-02	1.534870E-03
19	1.245164E-02	2.081745E+00	2.320732E-02	1.542597E-03
20	1.299297E-02	1.832820E+00	2.115213E-02	1.550627E-03
21	1.353430E-02	1.571639E+00	1.893052E-02	1.558954E-03
22	1.407562E-02	1.419160E+00	1.768802E-02	1.567574E-03
23	1.461694E-02	1.281948E+00	1.635956E-02	1.576481E-03
24	1.515825E-02	1.174161E+00	1.577773E-02	1.585672E-03
25	1.569956E-02	1.029536E+00	1.428914E-02	1.595141E-03
26	1.624086E-02	9.286797E-01	1.322119E-02	1.604883E-03
27	1.678215E-02	8.765793E-01	1.301842E-02	1.614894E-03
28	1.732344E-02	7.889049E-01	1.217046E-02	1.625168E-03

DAN

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Merging Options ::
3Number of tables for merging
3Number 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 TableSave as a new Table

	New Table Name	Q-Range-1	Q-Range-2	Q-Range-3
1	H-J	QI-SM-5321	QI-SM-5322	QI-SM-5322
2	H-L	QI-SM-5321	QI-SM-5322	QI-SM-5322
3	H-M	QI-SM-5321	QI-SM-5322	QI-SM-5322

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

Merge [project]Merge [ascii]

DAN

UNTITLED

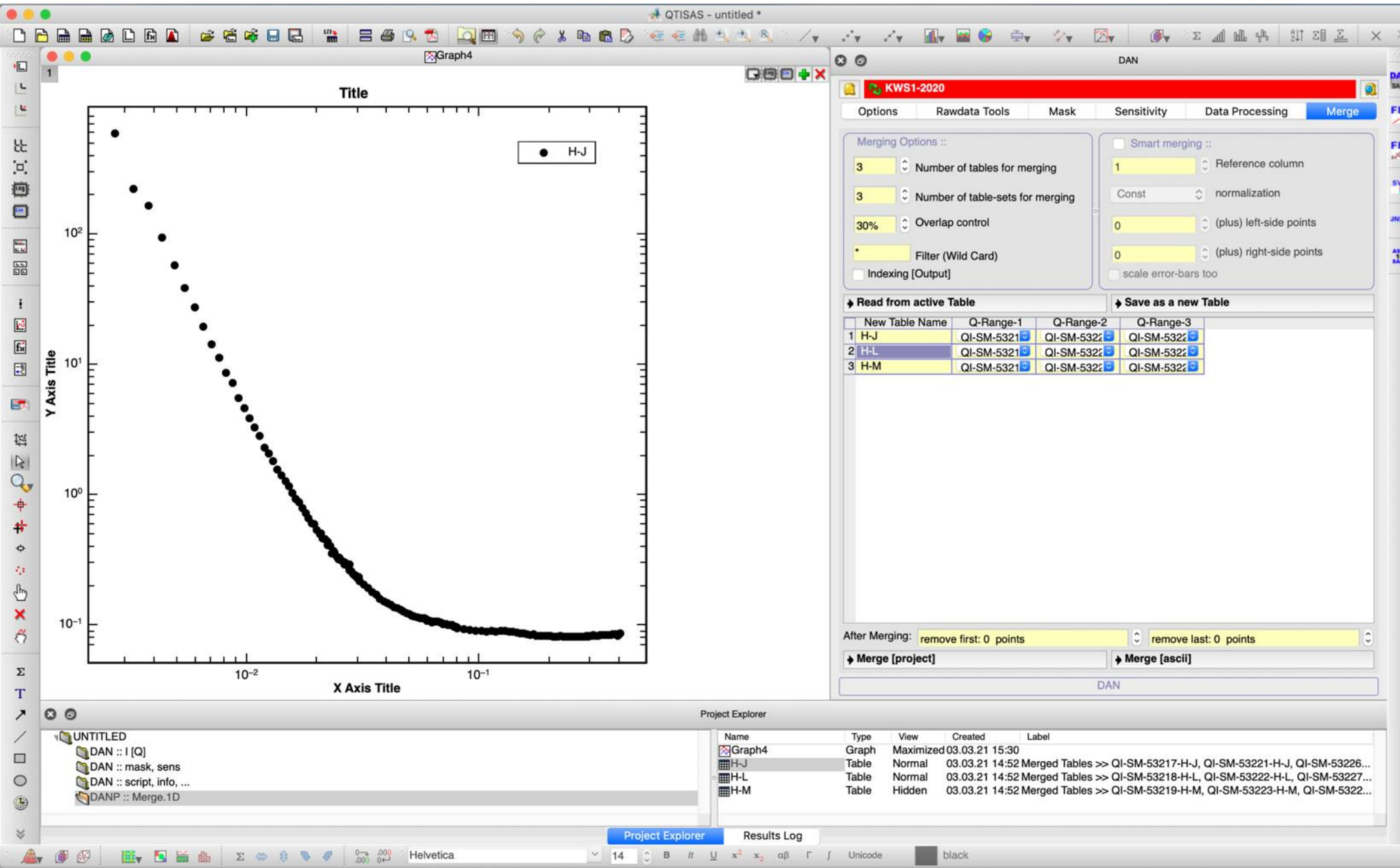
DAN :: I [Q]

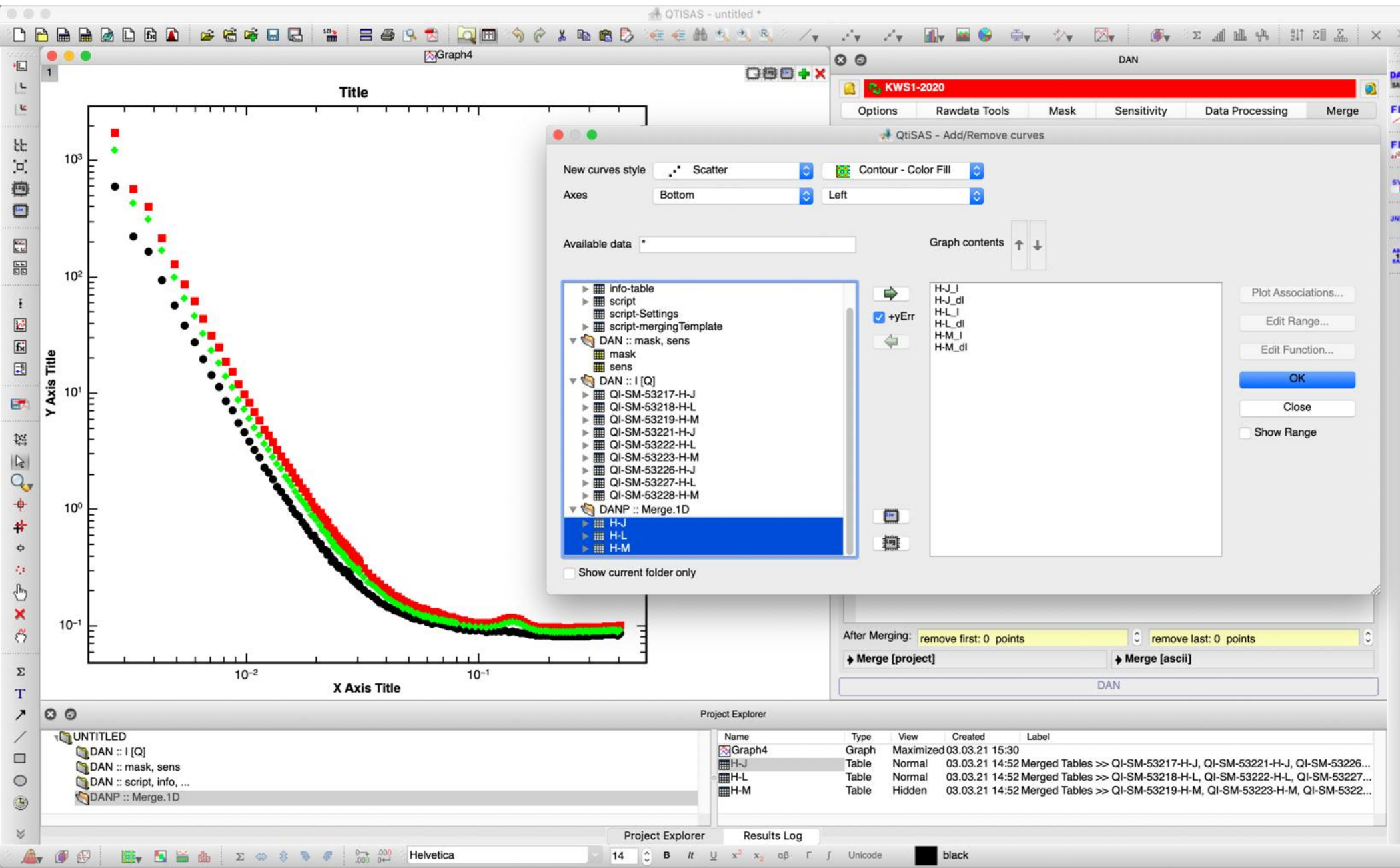
DAN :: script, info, ...

DANP :: Merge.1D

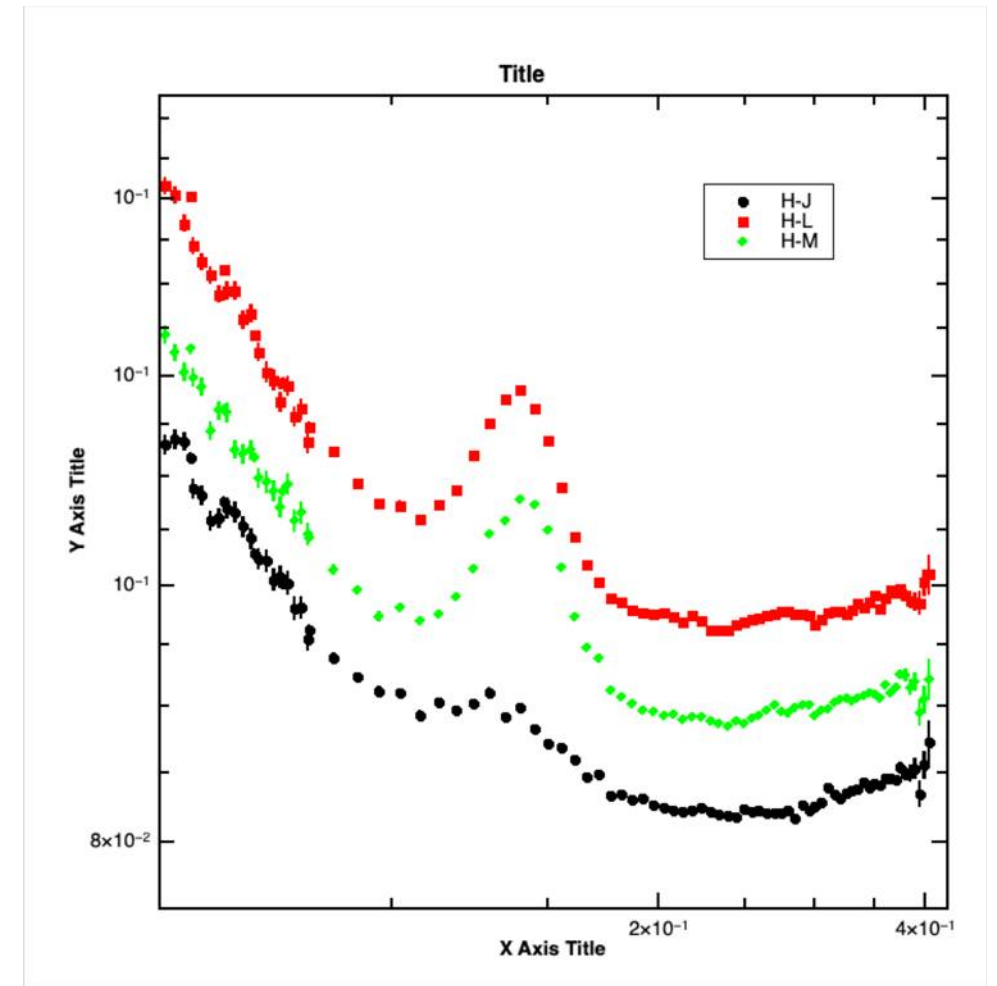
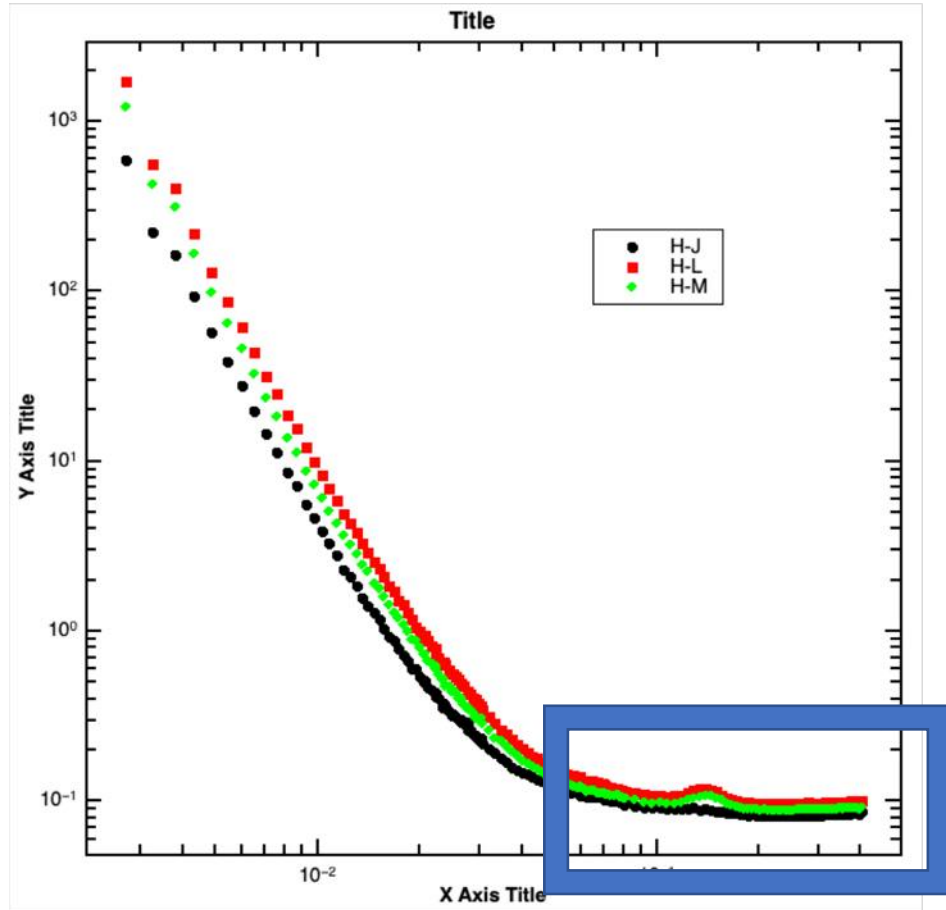
Name	Type	View	Created	Label
H-J	Table	Maximized	03.03.21	:52 Merged Tables >> QI-SM-53217-H-J, QI-SM-53221-H-J, QI-SM-53226...
H-L	Table	Hidden	03.03.21	:52 Merged Tables >> QI-SM-53218-H-L, QI-SM-53222-H-L, QI-SM-53227...
H-M	Table	Hidden	03.03.21	:52 Merged Tables >> QI-SM-53219-H-M, QI-SM-53223-H-M, QI-SM-5322...

Plotting Example of Merged Data





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;

QTISAS - /Users/pipich/Documents/sans/qtisas-documentation/dan-sans/kws-1/dan-example-kws1.qti *

SM-53217-H-J - H-J SM-53218-H-L - H-L SM-53219-H-M - H-M

SM-53221-H-J - H-J SM-53222-H-L - H-L SM-53223-H-M - H-M

SM-53227-H-L - H-L SM-53228-H-M - H-M SM-53226-H-J - H-J

DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#FS]	53229	53224	53224
Abs.Cal. [#EB]	53230	53225	53225
Abs.Cal. [#BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
μ [FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FSIAtt]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-Center	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.259
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask Matrix	mask	mask	mask
Sens. Matrix	sens	sens	sens
#-EB	53216	53220	53225
Tr [EC-to-EB]	<input type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000	<input type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask	mask	mask

Script-Table Tools

script

Process active Script-Table

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

I [Qx] I [Qy] σ [x,y] dQ [x,y]

Options :: Data Processing

DAN

FITTABLE(s) DAN

Project Explorer

Name	Type	View	Created	Label
I-SM-53217-H-J	Matrix	Normal	03.21 18:29 H-J	
I-SM-53218-H-L	Matrix	Normal	03.21 18:29 H-L	
I-SM-53219-H-M	Matrix	Normal	03.21 18:29 H-M	
I-SM-53221-H-J	Matrix	Normal	03.21 18:30 H-J	
I-SM-53222-H-L	Matrix	Normal	03.21 18:30 H-L	
I-SM-53223-H-M	Matrix	Normal	03.21 18:30 H-M	
I-SM-53226-H-J	Matrix	Normal	03.21 18:30 H-J	
I-SM-53227-H-L	Matrix	Normal	03.21 18:30 H-L	
I-SM-53228-H-M	Matrix	Normal	03.21 18:30 H-M	

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

Results Log Project Explorer

Helvetica 15

H-J

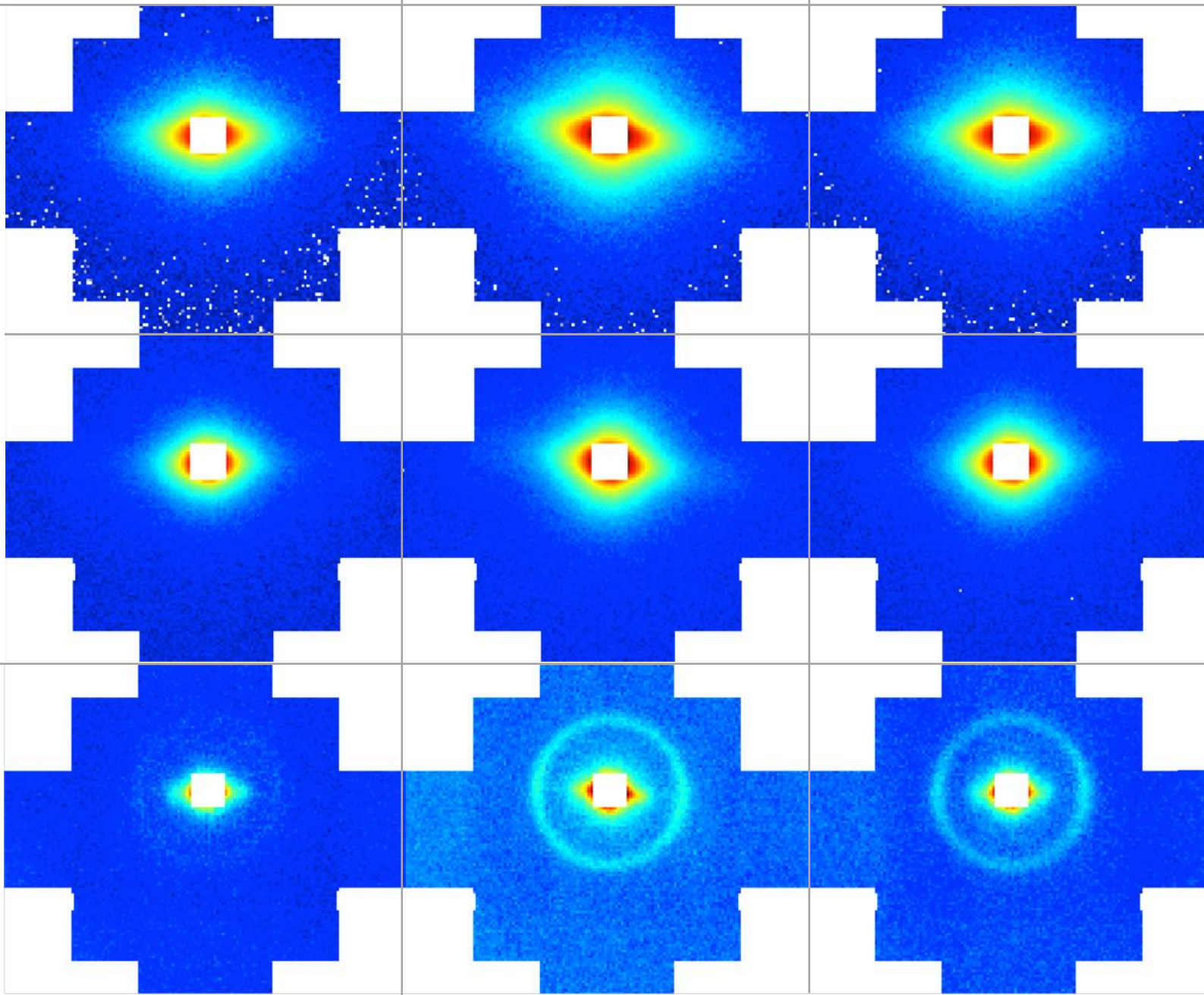
H-L

H-M

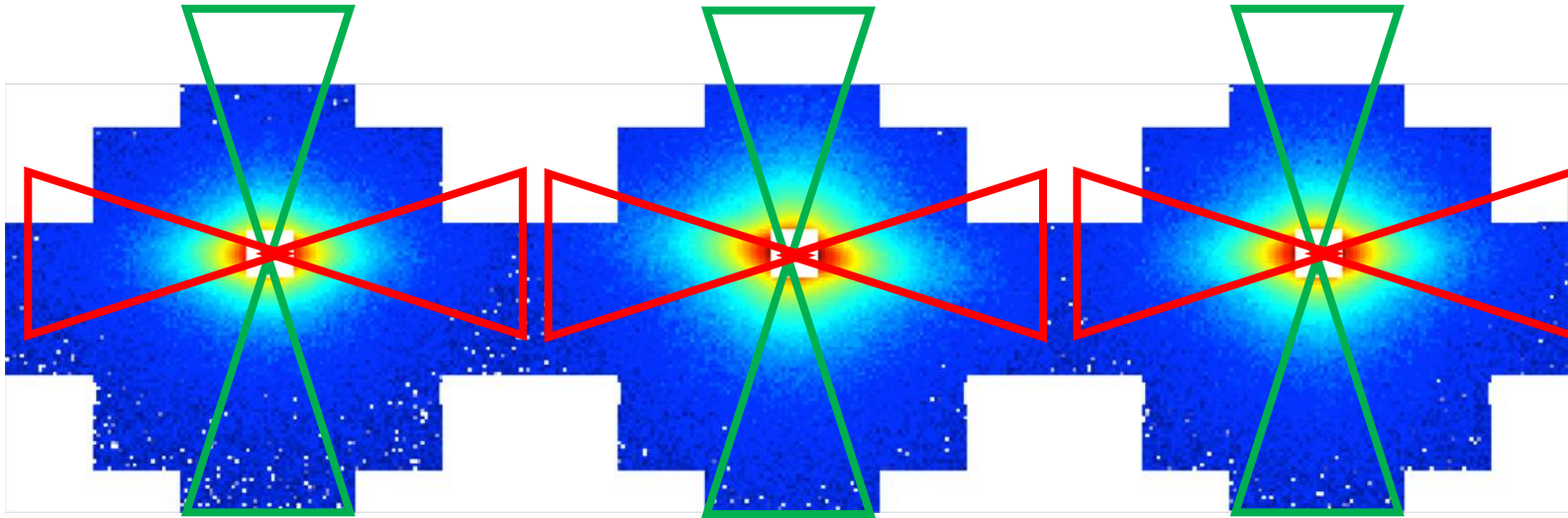
D20m

D8m

D2m

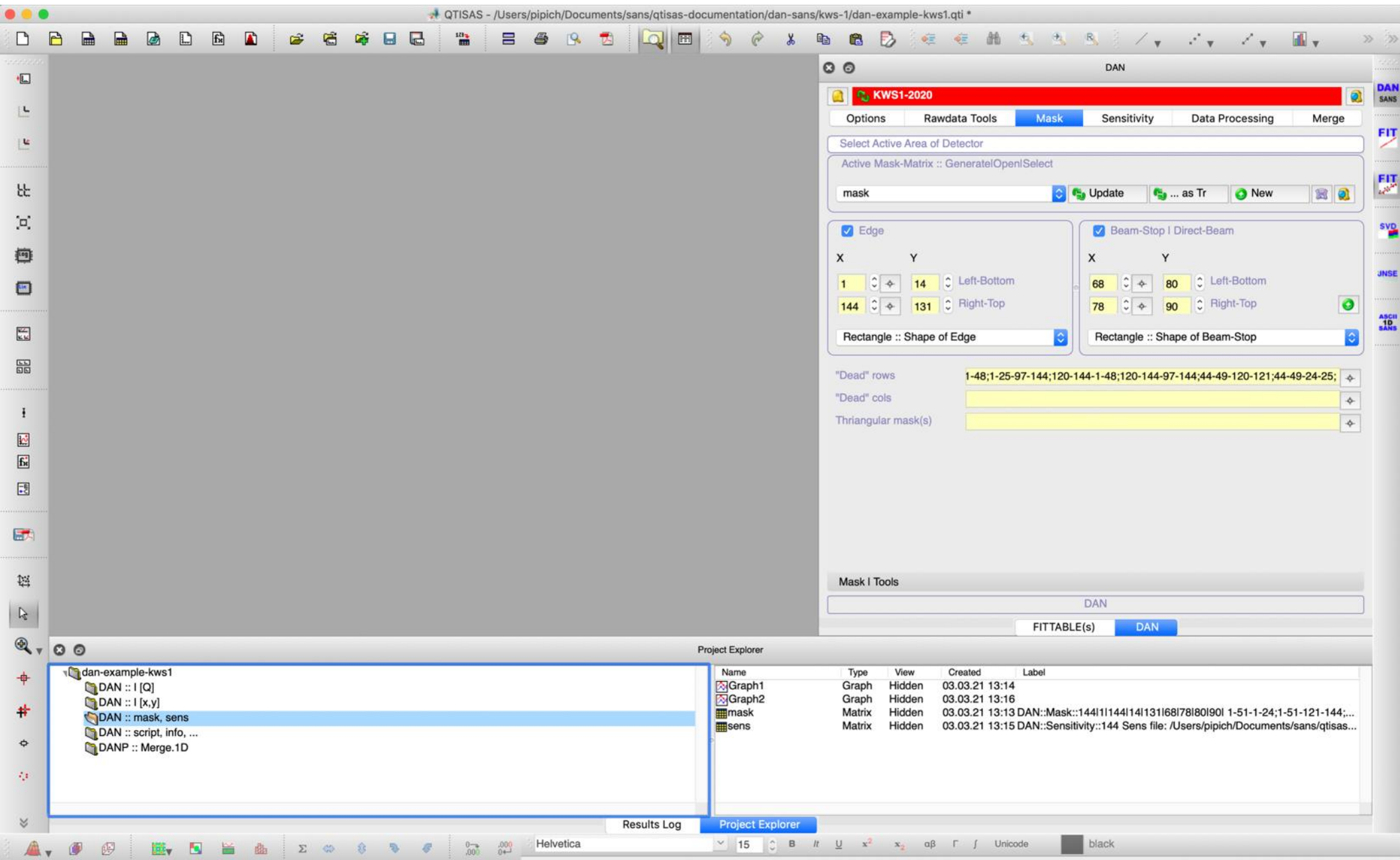


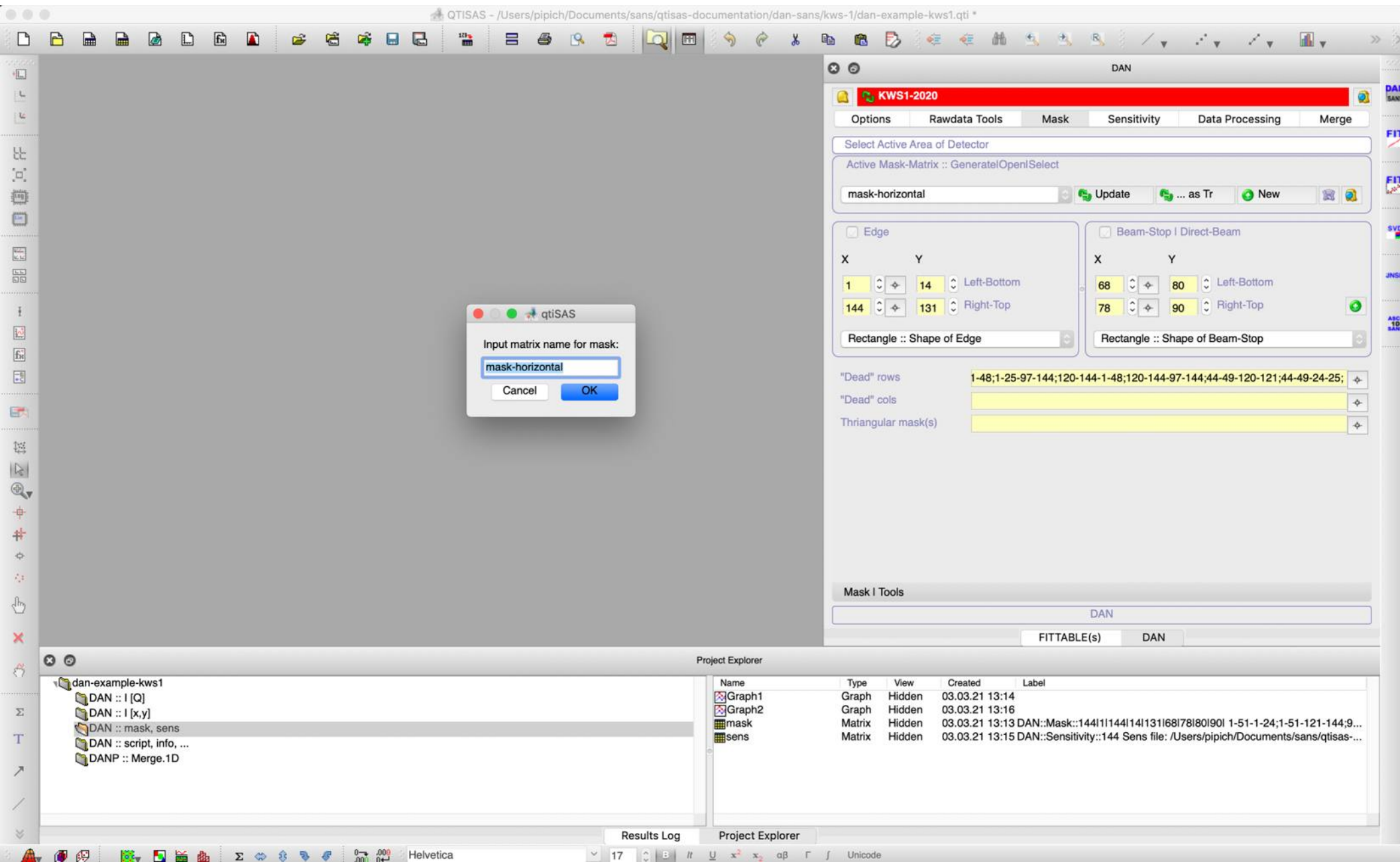
Problem: scattering is not ISOTROPIC



! Vertical & Horizontal Masks!

mask-horizontal





go to Mask | Tools

The screenshot displays the QTISAS software interface. The main window shows a plot titled "mask-horizontal" with a color scale from 0 to 1. The plot area is divided into red and blue regions. The X and Y axes are labeled "X Axis Title" and "Y Axis Title" respectively, with values ranging from 20 to 140. A green arrow points from the text "go to Mask | Tools" to the "Mask | Tools" button in the right-hand panel.

The right-hand panel, titled "DAN", contains the "Mask" tab. It includes a "Select Active Area of Detector" section with a dropdown menu set to "mask-horizontal" and buttons for "Update", "... as Tr", and "New". Below this, there are checkboxes for "Edge" and "Beam-Stop | Direct-Beam". The "Edge" section has input fields for X and Y coordinates (1, 14, 144, 131) and a dropdown for "Rectangle :: Shape of Edge". The "Beam-Stop | Direct-Beam" section has input fields for X and Y coordinates (68, 80, 78, 90) and a dropdown for "Rectangle :: Shape of Beam-Stop". There are also input fields for "Dead rows", "Dead cols", and "Triangular mask(s)".

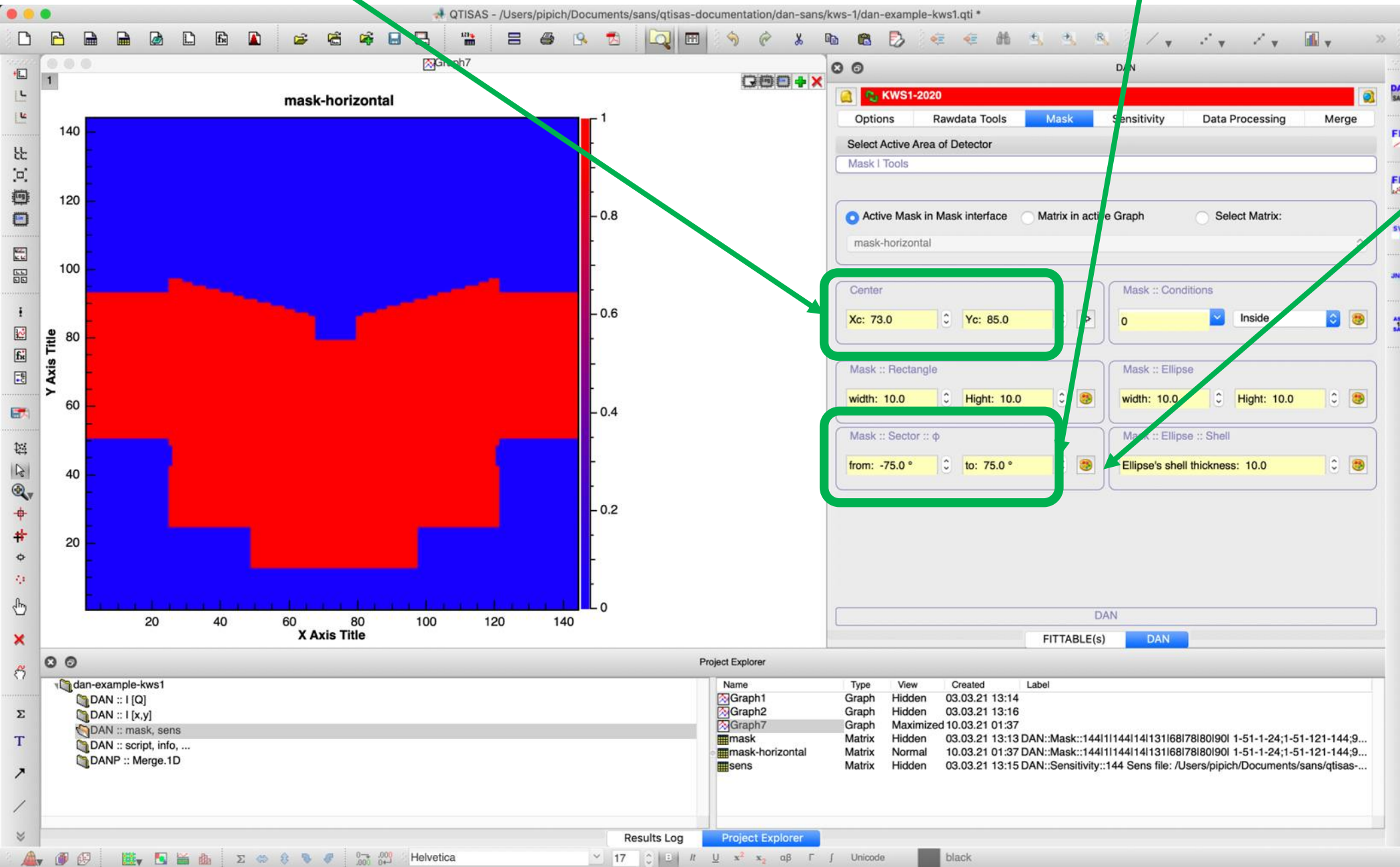
The bottom panel, titled "Project Explorer", shows a list of project items:

Name	Type	View	Created	Label
Graph1	Graph	Hidden	03.03.21 13:14	
Graph2	Graph	Hidden	03.03.21 13:16	
Graph7	Graph	Maximized	10.03.21 01:37	
mask	Matrix	Hidden	03.03.21 13:13	DAN::Mask::144 11144 14 131 68 78 80 90 1-51-1-24;1-51-121-144;9...
mask-horizontal	Matrix	Normal	10.03.21 01:37	DAN::Mask::144 11144 14 131 68 78 80 90 1-51-1-24;1-51-121-144;9...
sens	Matrix	Hidden	03.03.21 13:15	DAN::Sensitivity::144 Sens file: /Users/pipich/Documents/sans/qtisas-...

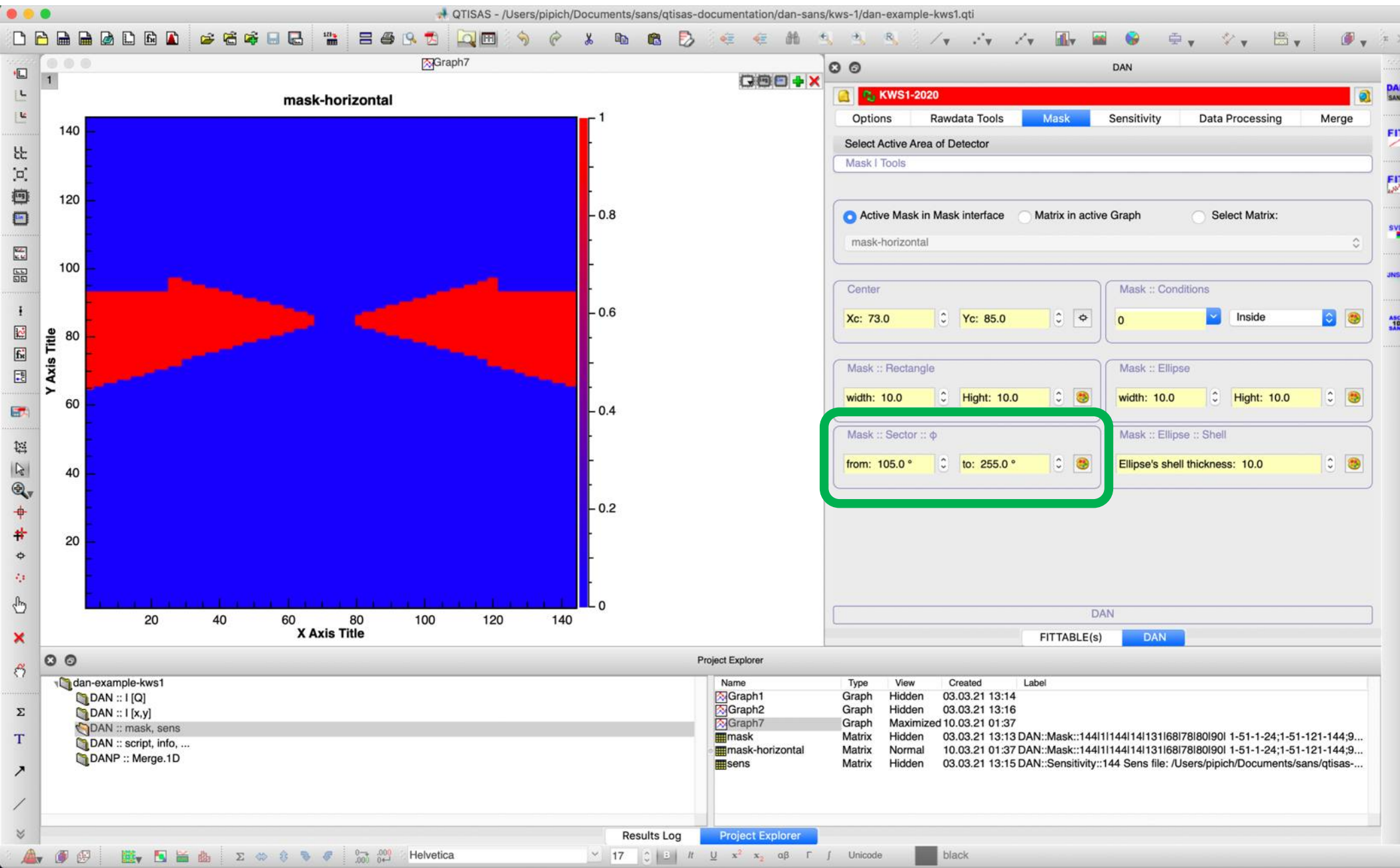
1. Set **Center** of the beam-stop

2. Set **Sector** range.

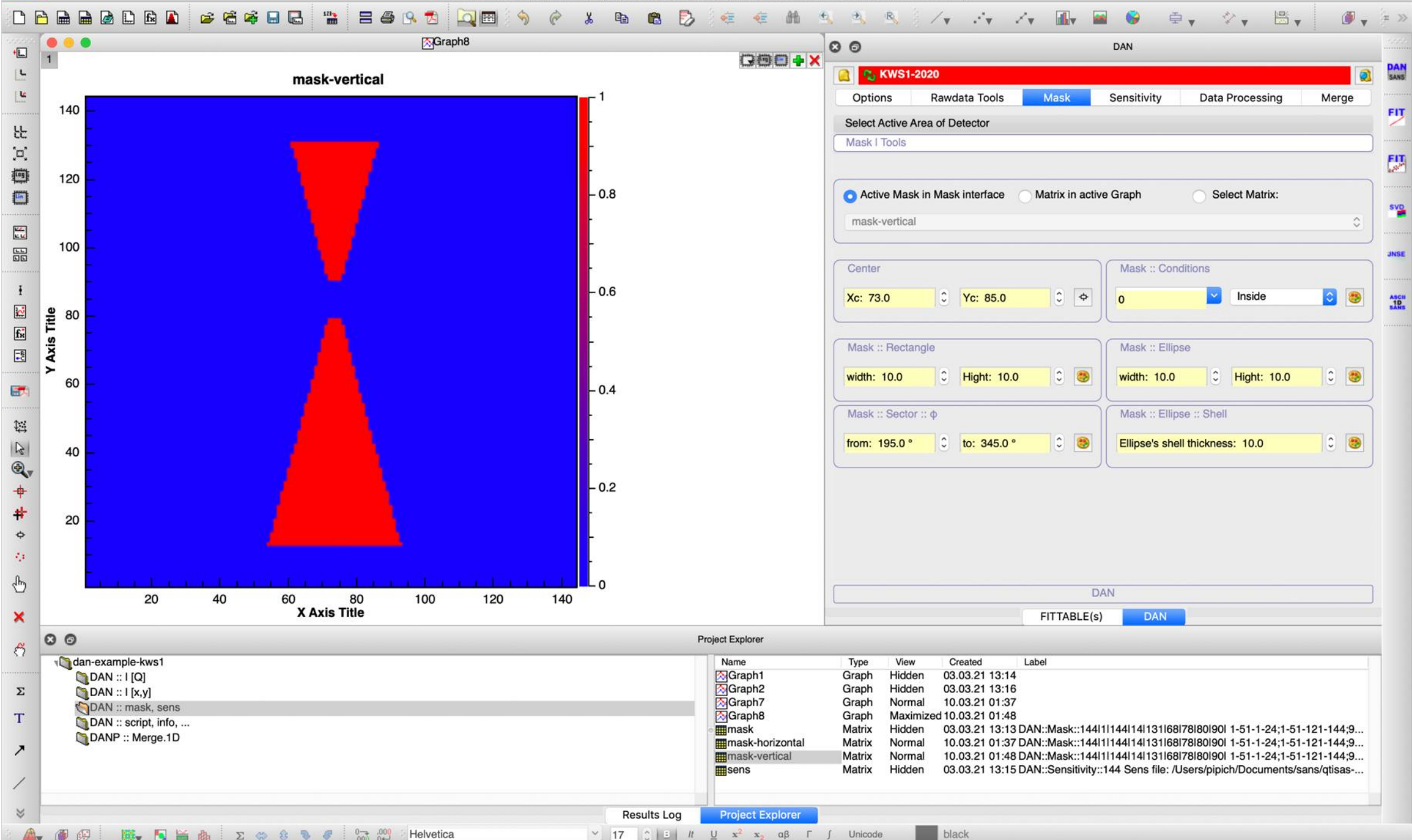
3. Push



Mask also lower sector



mask-vertical



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

QTISAS - /Users/pipich/Documents/sans/qtisas-documentation/dan-sans/kws-1/dan-example-kws1.qti *

script - DAN::Script::Table

Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness	Transmis
1 H-J	53217	1	20	19.68	4.930	50x50l12x12	48462	53216	0.1	0.9061
2 H-L	53218	1	20	19.68	4.930	50x50l12x12	48462	53216	0.1	0.8981
3 H-M	53219	1	20	19.68	4.930	50x50l12x12	48462	53216	0.1	0.9019
4 H-J	53221	2	8	7.68	4.930	50x50l12x12	48462	53220	0.1	0.9061
5 H-L	53222	2	8	7.68	4.930	50x50l12x12	48462	53220	0.1	0.8981
6 H-M	53223	2	8	7.68	4.930	50x50l12x12	48462	53220	0.1	0.9019
7 H-J	53226	3	8	1.98	4.930	50x50l12x12	48462	53225	0.1	0.9061
8 H-L	53227	3	8	1.98	4.930	50x50l12x12	48462	53225	0.1	0.8981
9 H-M	53228	3	8	1.98	4.930	50x50l12x12	48462	53225	0.1	0.9019

data

Name	Date Modified	Size
48462_Stan_C8_S4_D0.DAT	17. Mar 2020 at 10:22	658 KB
example-kws1_53217_Stan_C20_S3_D0.DAT	3. Mar 2021 at 12:20	658 KB
example-kws1_53218_Stan_C20_S4_D0.DAT	3. Mar 2021 at 12:20	658 KB
example-kws1_53219_Stan_C20_S5_D0.DAT	3. Mar 2021 at 12:20	658 KB
example-kws1_53220_Stan_C8_S2_D0.DAT	3. Mar 2021 at 12:21	658 KB
example-kws1_53221_Stan_C8_S3_D0.DAT	3. Mar 2021 at 12:21	658 KB
example-kws1_53222_Stan_C8_S4_D0.DAT	3. Mar 2021 at 12:21	658 KB
example-kws1_53223_Stan_C8_S5_D0.DAT	3. Mar 2021 at 12:22	658 KB
example-kws1_53224_Stan_C8_S1_D0.DAT	3. Mar 2021 at 12:22	658 KB
example-kws1_53225_Stan_C8_S2_D0.DAT	3. Mar 2021 at 12:22	658 KB
example-kws1_53226_Stan_C8_S3_D0.DAT	3. Mar 2021 at 12:23	658 KB
example-kws1_53227_Stan_C8_S4_D0.DAT	3. Mar 2021 at 12:23	658 KB
example-kws1_53228_Stan_C8_S5_D0.DAT	3. Mar 2021 at 12:23	658 KB
example-kws1_53229_Stan_C20_S1_D0.DAT	3. Mar 2021 at 12:23	658 KB
example-kws1_53230_Stan_C20_S2_D0.DAT	3. Mar 2021 at 12:24	658 KB
sens-20200117.sens	17. Mar 2020 at 10:28	311 KB

DAN

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
λ [Å]	4.930	4.930	4.930
Beam Size	50x50l12x12	50x50l12x12	50x50l12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
μ [FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FSiAtt]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	72.138±0.191	72.691±0.259
Y-center	84.793±0.066	85.597±0.086	83.711±0.080
Mask. Matrix	mask-horizontal	mask-horizontal	mask-horizontal
Sens. Matrix	sens	sens	sens
#-EB	53216	53220	53225
Tr [EC-to-EB]	<input type="checkbox"/> 1.0000	<input checked="" type="checkbox"/> 1.0000	<input type="checkbox"/> 1.0000
Mask Matrix [Tr]	mask	mask	mask

Script-Table Tools

script

NewAddTr

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

FITTABLE(s)DAN

Type	View	Created	Label	
Table	Normal	03.03.21 12:36	Info::Table	
Table	Maximized	03.03.21 14:10	DAN::Script::Table	
MergingTemplate	Table	Normal	03.03.21 14:45	DAN::Merging::Template
Settings	Table	Normal	03.03.21 14:10	DAN::Settings::Table

Results LogProject Explorer

Helvetica17Unicode

The screenshot displays the QTIAS software interface, which is used for data processing and analysis. The main window is titled "script - DAN::Script::Table" and contains a table with 12 rows and 11 columns. The columns are: Run-info, #-Run[X], #-Condition, C, D, Lambda, Beam Size, #-BC, #-EC [EB], and Thickness. The rows are numbered 1 to 12. The first 9 rows are for "H-J", "H-L", and "H-M" conditions. The last 3 rows are for "H-J-horizontal", "H-L-horizontal", and "H-M-horizontal" conditions. The "H-M-horizontal" row is highlighted with a green box.

Below the main table, there is a "Table of Configurations :: Data Processing" section. It contains a table with 3 columns: cond.-#1, cond.-#2, and cond.-#3. The rows are: 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], and Mask Matrix [Tr].

At the bottom of the interface, there is a "Project Explorer" section. It shows a tree view of the project files, including "dan-example-kws1", "DAN :: I [Q]", "DAN :: I [x,y]", "DAN :: mask, sens", "DAN :: script, info, ...", and "DANP :: Merge.1D".

Sample Names: added suffix “-vertical”

Mask. Matrix

mask-vertical

mask-vertical

mask-vertical

script - DAN::Script::Table

Run-info	#-Run[X]	#-Condition	C	D	Lambda	Beam Size	#-BC	#-EC [EB]	Thickness
5 H-L	53222	2	8	7.68	4.930	50x50l12x12	48462	53220	0.1
6 H-M	53223	2	8	7.68	4.930	50x50l12x12	48462	53220	0.1
7 H-J	53226	3	8	1.98	4.930	50x50l12x12	48462	53225	0.1
8 H-L	53227	3	8	1.98	4.930	50x50l12x12	48462	53225	0.1
9 H-M	53228	3	8	1.98	4.930	50x50l12x12	48462	53225	0.1
10									
11 H-J-horizontal	53217	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100
12 H-L-horizontal	53218	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100
13 H-M-horizontal	53219	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100
14 H-J-horizontal	53221	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100
15 H-L-horizontal	53222	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100
16 H-M-horizontal	53223	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100
17 H-J-horizontal	53226	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100
18 H-L-horizontal	53227	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100
19 H-M-horizontal	53228	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100
20									
21 H-J-vertical	53217	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100
22 H-L-vertical	53218	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100
23 H-M-vertical	53219	1	20	19.680	4.930	50x50l12x12	48462	53216	0.100
24 H-J-vertical	53221	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100
25 H-L-vertical	53222	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100
26 H-M-vertical	53223	2	8	7.680	4.930	50x50l12x12	48462	53220	0.100
27 H-J-vertical	53226	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100
28 H-L-vertical	53227	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100
29 H-M-vertical	53228	3	8	1.980	4.930	50x50l12x12	48462	53225	0.100

DAN

KWS1-2020

OptionsRawdata ToolsMaskSensitivityData ProcessingMerge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
D[m]	19.680	7.680	1.980
λ[Å]	4.930	4.930	4.930
Beam Size	50x50l12x12	50x50l12x12	50x50l12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FSIEB][m]	1.980	1.980	1.980
μ-[FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FSIAtt]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02
#-"Center"	53218	53222	53227
X-center	73.514±0.143	73.138±0.191	72.691±0.259
Mask. Matrix	mask-vertical	mask-vertical	mask-vertical
#-EB	53216	53220	53225
Tr [EC-to-EB]	1.0000	1.0000	1.0000
Mask Matrix [Tr]	mask	mask	mask

Script-Table Tools

script

Process active Script-Table

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

Options :: Data Processing

DAN

Project Explorer

Name	Type	View	Created	Label
info-table	Table	Normal	03.03.21 12:36	Info::Table
script	Table	Maximized	03.03.21 14:10	DAN::Script::Table
script-mergingTemplate	Table	Normal	03.03.21 14:45	DAN::Merging::Template
script-Settings	Table	Normal	03.03.21 14:10	DAN::Settings::Table

Results Log

Project Explorer

New "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-J	53217	1	20	19.68	4.930	50x50 12x12	48462	53216	0.1	0.9061 [±0.0012]	5.3390E+04	73.514	84.793	mask	sens	⌵
2	H-L	53218	1	20	19.68	4.930	50x50 12x12	48462	53216	0.1	0.8981 [±0.0012]	5.3390E+04	73.514	84.793	mask	sens	⌵
3	H-M	53219	1	20	19.68	4.930	50x50 12x12	48462	53216	0.1	0.9019 [±0.0012]	5.3390E+04	73.514	84.793	mask	sens	⌵
4	H-J	53221	2	8	7.68	4.930	50x50 12x12	48462	53220	0.1	0.9061 [±0.0012]	1.7654E+03	73.138	85.597	mask	sens	⌵
5	H-L	53222	2	8	7.68	4.930	50x50 12x12	48462	53220	0.1	0.8981 [±0.0012]	1.7654E+03	73.138	85.597	mask	sens	⌵
6	H-M	53223	2	8	7.68	4.930	50x50 12x12	48462	53220	0.1	0.9019 [±0.0012]	1.7654E+03	73.138	85.597	mask	sens	⌵
7	H-J	53226	3	8	1.98	4.930	50x50 12x12	48462	53225	0.1	0.9061 [±0.0012]	1.1734E+02	72.691	83.711	mask	sens	⌵
8	H-L	53227	3	8	1.98	4.930	50x50 12x12	48462	53225	0.1	0.8981 [±0.0012]	1.1734E+02	72.691	83.711	mask	sens	⌵
9	H-M	53228	3	8	1.98	4.930	50x50 12x12	48462	53225	0.1	0.9019 [±0.0012]	1.1734E+02	72.691	83.711	mask	sens	⌵
10																	
11	H-J-horizontal	53217	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9061 [±0.0012]	53390	73.514	84.793	mask-horizontal	sens	
12	H-L-horizontal	53218	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.8981 [±0.0012]	53390	73.514	84.793	mask-horizontal	sens	
13	H-M-horizontal	53219	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9019 [±0.0012]	53390	73.514	84.793	mask-horizontal	sens	
14	H-J-horizontal	53221	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9061 [±0.0012]	1765.4	73.138	85.597	mask-horizontal	sens	
15	H-L-horizontal	53222	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.8981 [±0.0012]	1765.4	73.138	85.597	mask-horizontal	sens	
16	H-M-horizontal	53223	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9019 [±0.0012]	1765.4	73.138	85.597	mask-horizontal	sens	
17	H-J-horizontal	53226	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9061 [±0.0012]	117.34	72.691	83.711	mask-horizontal	sens	
18	H-L-horizontal	53227	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.8981 [±0.0012]	117.34	72.691	83.711	mask-horizontal	sens	
19	H-M-horizontal	53228	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9019 [±0.0012]	117.34	72.691	83.711	mask-horizontal	sens	
20																	
21	H-J-vertical	53217	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9061 [±0.0012]	53390	73.514	84.793	mask-vertical	sens	
22	H-L-vertical	53218	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.8981 [±0.0012]	53390	73.514	84.793	mask-vertical	sens	
23	H-M-vertical	53219	1	20	19.680	4.930	50x50 12x12	48462	53216	0.100	0.9019 [±0.0012]	53390	73.514	84.793	mask-vertical	sens	
24	H-J-vertical	53221	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9061 [±0.0012]	1765.4	73.138	85.597	mask-vertical	sens	
25	H-L-vertical	53222	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.8981 [±0.0012]	1765.4	73.138	85.597	mask-vertical	sens	
26	H-M-vertical	53223	2	8	7.680	4.930	50x50 12x12	48462	53220	0.100	0.9019 [±0.0012]	1765.4	73.138	85.597	mask-vertical	sens	
27	H-J-vertical	53226	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9061 [±0.0012]	117.34	72.691	83.711	mask-vertical	sens	
28	H-L-vertical	53227	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.8981 [±0.0012]	117.34	72.691	83.711	mask-vertical	sens	
29	H-M-vertical	53228	3	8	1.980	4.930	50x50 12x12	48462	53225	0.100	0.9019 [±0.0012]	117.34	72.691	83.711	mask-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

QTISAS - /Users/pipich/Documents/sans/qtisas-documentation/dan-sans/kws-1/dan-example-kws1.qti *

QI-SM-53217-H-J - H-J

	Q[X]	I[Y]	dI[YEr]	Sigma[XEr]
1	2.70696975E-03	5.95856827E+02	4.59440953E+00	1.45370264E-03
2	3.24836128E-03	2.24343128E+02	6.85409803E-01	1.45570088E-03
3	3.78975149E-03	1.65516589E+02	3.94825283E-01	1.45805890E-03
4	4.33114016E-03	9.43380631E+01	2.46530826E-01	1.46077496E-03
5	4.87252708E-03	5.74591868E+01	1.76817962E-01	1.46384705E-03
6	5.41391202E-03	3.86834393E+01	1.41564923E-01	1.46727293E-03
7	5.95529476E-03	2.76490833E+01	1.15635807E-01	1.47105013E-03
8	6.49667508E-03	1.96777038E+01	9.04783430E-02	1.47517594E-03
9	7.03805276E-03	1.44309119E+01	7.49464298E-02	1.47964745E-03
10	7.57942759E-03	1.13744940E+01	6.44146418E-02	1.48446151E-03
11	8.12079933E-03	8.60729653E+00	5.45215821E-02	1.48961479E-03
12	8.66216779E-03	7.21870939E+00	4.93652557E-02	1.49510379E-03
13	9.20353272E-03	5.55677417E+00	4.06822603E-02	1.50092482E-03
14	9.74489392E-03	4.63620229E+00	3.72230504E-02	1.50707400E-03
15	1.02862512E-02	3.85444418E+00	3.38728665E-02	1.51354734E-03
16	1.08276042E-02	3.30051293E+00	3.02767067E-02	1.52034069E-03
17	1.13689529E-02	2.82623786E+00	2.76076372E-02	1.52744976E-03
18	1.19102970E-02	2.30971995E+00	2.36938852E-02	1.53487015E-03
19	1.24516362E-02	2.08174501E+00	2.32073226E-02	1.54259736E-03
20	1.29929703E-02	1.83282018E+00	2.11521258E-02	1.55062679E-03
21	1.35342992E-02	1.57163873E+00	1.89305162E-02	1.55895376E-03

DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Table of Configurations :: Data Processing

	cond.-#1	cond.-#2	cond.-#3
#-EC [EB]	53216	53220	53225
#-BC	48462	48462	48462
C[m]	20	8	8
D[m]	19.680	7.680	1.980
λ [Å]	4.930	4.930	4.930
Beam Size	50x50 12x12	50x50 12x12	50x50 12x12
Abs.Cal. [#-FS]	53229	53224	53224
Abs.Cal. [#-EB]	53230	53225	53225
Abs.Cal. [#-BC]	48462	48462	48462
D-[FS EB][m]	1.980	1.980	1.980
μ [FS]	5.9064E-02	5.9064E-02	5.9064E-02
Tr-[FS Att]	0.4189	0.4189	0.4189
Factor	5.3390E+04	1.7654E+03	1.1734E+02

Script-Table Tools

script

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

dan-example-kws1

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

Name	Type	View	Created	Label
QI-SM-53218-H-L	Table	Normal	03.03.21 14:45 H-L	
QI-SM-53218-H-L-horizontal	Table	Normal	10.03.21 02:02 H-L-horizontal	
QI-SM-53218-H-L-vertical	Table	Normal	10.03.21 02:02 H-L-vertical	
QI-SM-53219-H-M	Table	Normal	03.03.21 14:45 H-M	
QI-SM-53219-H-M-horizontal	Table	Normal	10.03.21 02:02 H-M-horizontal	
QI-SM-53219-H-M-vertical	Table	Normal	10.03.21 02:02 H-M-vertical	
QI-SM-53221-H-J	Table	Normal	03.03.21 14:45 H-J	
QI-SM-53221-H-J-horizontal	Table	Normal	10.03.21 02:02 H-J-horizontal	
QI-SM-53221-H-J-vertical	Table	Normal	10.03.21 02:02 H-J-vertical	
QI-SM-53222-H-L	Table	Normal	03.03.21 14:45 H-L	
QI-SM-53222-H-L-horizontal	Table	Normal	10.03.21 02:02 H-L-horizontal	
QI-SM-53222-H-L-vertical	Table	Normal	10.03.21 02:02 H-L-vertical	
QI-SM-53223-H-M	Table	Normal	03.03.21 14:45 H-M	
QI-SM-53223-H-M-horizontal	Table	Normal	10.03.21 02:02 H-M-horizontal	
QI-SM-53223-H-M-vertical	Table	Normal	10.03.21 02:02 H-M-vertical	

Project Explorer Results Log

Helvetica 17

Merging Data

QTISAS - /Users/pipich/Documents/sans/qtisas-documentation/dan-sans/kws-1/dan-example-kws1.qti *

script-mergingTemplate - DAN::Merging::Template

	1[X]	2[Y]	3[Y]	4[Y]
1	H-J	QI-SM-53217-H-J	QI-SM-53221-H-J	QI-SM-53226-H-J
2	H-L	QI-SM-53218-H-L	QI-SM-53222-H-L	QI-SM-53227-H-L
3	H-M	QI-SM-53219-H-M	QI-SM-53223-H-M	QI-SM-53228-H-M
4	H-J-horizontal	QI-SM-53217-H-J-horizontal	QI-SM-53221-H-J-horizontal	QI-SM-53226-H-J-horizontal
5	H-L-horizontal	QI-SM-53218-H-L-horizontal	QI-SM-53222-H-L-horizontal	QI-SM-53227-H-L-horizontal
6	H-M-horizontal	QI-SM-53219-H-M-horizontal	QI-SM-53223-H-M-horizontal	QI-SM-53228-H-M-horizontal
7	H-J-vertical	QI-SM-53217-H-J-vertical	QI-SM-53221-H-J-vertical	QI-SM-53226-H-J-vertical
8	H-L-vertical	QI-SM-53218-H-L-vertical	QI-SM-53222-H-L-vertical	QI-SM-53227-H-L-vertical
9	H-M-vertical	QI-SM-53219-H-M-vertical	QI-SM-53223-H-M-vertical	QI-SM-53228-H-M-vertical

DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Merging Options ::

3 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

New Table Name	Q-Range-1	Q-Range-2	Q-Range-
1 H-J	QI-SM-53217-H-J	QI-SM-53221-H-J	QI-SM-53226-H-J
2 H-L	QI-SM-53218-H-L	QI-SM-53222-H-L	QI-SM-53227-H-L
3 H-M	QI-SM-53219-H-M	QI-SM-53223-H-M	QI-SM-53228-H-M
4 H-J-horizontal	QI-SM-53217-H-J-horizont	QI-SM-53221-H-J-horizo	QI-SM-53226-H-J-hi
5 H-L-horizontal	QI-SM-53218-H-L-horizont	QI-SM-53222-H-L-horizo	QI-SM-53227-H-L-hi
6 H-M-horizontal	QI-SM-53219-H-M-horizon	QI-SM-53223-H-M-horiz	QI-SM-53228-H-M-h
7 H-J-vertical	QI-SM-53217-H-J-vertical	QI-SM-53221-H-J-vertic	QI-SM-53226-H-J-vi
8 H-L-vertical	QI-SM-53218-H-L-vertical	QI-SM-53222-H-L-vertic	QI-SM-53227-H-L-vi
9 H-M-vertical	QI-SM-53219-H-M-vertical	QI-SM-53223-H-M-vertic	QI-SM-53228-H-M-v

Save as a new Table

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

Merge [project] Merge [ascii]

DAN

Project Explorer

dan-example-kws1

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

Name	Type	View	Created	Label
info-table	Table	Normal	03.03.21 12:36	Info::Table
script	Table	Normal	03.03.21 14:10	DAN::Script::Table
script-mergingTemplate	Table	Maximized	10.03.21 02:02	DAN::Merging::Template
script-Settings	Table	Normal	03.03.21 14:10	DAN::Settings::Table

Project Explorer Results Log

Helvetica 17

Tables are ready

QTISAS - /Users/pipich/Documents/sans/qtisas-documentation/dan-sans/kws-1/dan-example-kws1.qti *

H-J - Merged Tables >> QI-SM-53217-H-J, QI-SM-53221-H-J, QI-SM-53226-H-J,

	Q[X]	I[Y]	dI[yEr]	Sigma[xEr]
1	2.706970E-03	5.958568E+02	4.594410E+00	1.453703E-03
2	3.248361E-03	2.243431E+02	6.854098E-01	1.455701E-03
3	3.789751E-03	1.655166E+02	3.948253E-01	1.458059E-03
4	4.331140E-03	9.433806E+01	2.465308E-01	1.460775E-03
5	4.872527E-03	5.745919E+01	1.768180E-01	1.463847E-03
6	5.413912E-03	3.868344E+01	1.415649E-01	1.467273E-03
7	5.955295E-03	2.764908E+01	1.156358E-01	1.471050E-03
8	6.496675E-03	1.967770E+01	9.047834E-02	1.475176E-03
9	7.038053E-03	1.443091E+01	7.494643E-02	1.479647E-03
10	7.579428E-03	1.137449E+01	6.441464E-02	1.484462E-03
11	8.120799E-03	8.607297E+00	5.452158E-02	1.489615E-03
12	8.662168E-03	7.218709E+00	4.936526E-02	1.495104E-03
13	9.203533E-03	5.556774E+00	4.068226E-02	1.500925E-03
14	9.744894E-03	4.636202E+00	3.722305E-02	1.507074E-03
15	1.028625E-02	3.854444E+00	3.387287E-02	1.513547E-03
16	1.082760E-02	3.300513E+00	3.027671E-02	1.520341E-03
17	1.136895E-02	2.826238E+00	2.760764E-02	1.527450E-03
18	1.191030E-02	2.309720E+00	2.369389E-02	1.534870E-03
19	1.245164E-02	2.081745E+00	2.320732E-02	1.542597E-03
20	1.299297E-02	1.832820E+00	2.115213E-02	1.550627E-03
21	1.353430E-02	1.571639E+00	1.893052E-02	1.558954E-03
22	1.407562E-02	1.419160E+00	1.768802E-02	1.567574E-03
23	1.461694E-02	1.281948E+00	1.635956E-02	1.576481E-03
24	1.515825E-02	1.174161E+00	1.577773E-02	1.585672E-03
25	1.569956E-02	1.029536E+00	1.428914E-02	1.595141E-03
26	1.624086E-02	9.286797E-01	1.322119E-02	1.604883E-03

DAN

KWS1-2020

Options Rawdata Tools Mask Sensitivity Data Processing Merge

Merging Options ::

3 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	Q-Range-3
1 H-J	QI-SM-53217-H-J	QI-SM-53221-H-J	QI-SM-53226-H-J
2 H-L	QI-SM-53218-H-L	QI-SM-53222-H-L	QI-SM-53227-H-L
3 H-M	QI-SM-53219-H-M	QI-SM-53223-H-M	QI-SM-53228-H-M
4 H-J-horizontal	QI-SM-53217-H-J-horizontal	QI-SM-53221-H-J-horizo	QI-SM-53226-H-J-horiz
5 H-L-horizontal	QI-SM-53218-H-L-horizontal	QI-SM-53222-H-L-horizo	QI-SM-53227-H-L-horiz
6 H-M-horizontal	QI-SM-53219-H-M-horizontal	QI-SM-53223-H-M-horiz	QI-SM-53228-H-M-horiz
7 H-J-vertical	QI-SM-53217-H-J-vertical	QI-SM-53221-H-J-vertica	QI-SM-53226-H-J-verti
8 H-L-vertical	QI-SM-53218-H-L-vertical	QI-SM-53222-H-L-vertica	QI-SM-53227-H-L-verti
9 H-M-vertical	QI-SM-53219-H-M-vertical	QI-SM-53223-H-M-vertic	QI-SM-53228-H-M-veri

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

Merge [project] Merge [ascii]

DAN

Project Explorer

dan-example-kws1

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

Name	Type	View	Created	Label
H-J-horizontal	Table	Hidden	10.03.21 02:05	Merged Tables >> QI-SM-53217-H-J-horizontal, QI-SM-53221-...
H-J-vertical	Table	Hidden	10.03.21 02:05	Merged Tables >> QI-SM-53217-H-J-vertical, QI-SM-53221-H-J...
H-L	Table	Normal	03.03.21 14:52	Merged Tables >> QI-SM-53218-H-L, QI-SM-53222-H-L, QI-S...
H-L-horizontal	Table	Hidden	10.03.21 02:05	Merged Tables >> QI-SM-53218-H-L-horizontal, QI-SM-53222-...
H-L-vertical	Table	Hidden	10.03.21 02:05	Merged Tables >> QI-SM-53218-H-L-vertical, QI-SM-53222-H-...
H-M	Table	Normal	03.03.21 14:52	Merged Tables >> QI-SM-53219-H-M, QI-SM-53223-H-M, QI-S...
H-M-horizontal	Table	Hidden	10.03.21 02:05	Merged Tables >> QI-SM-53219-H-M-horizontal, QI-SM-53223-...
H-M-vertical	Table	Hidden	10.03.21 02:05	Merged Tables >> QI-SM-53219-H-M-vertical, QI-SM-53223-H-...

Project Explorer Results Log

Helvetica 17 B It U x2 x3 αβ Γ f Unicode

Plotting “H-M” sample averaged with 3 masks

