

Report

Saratoga Springs Breast Imaging: Tomophan

TOMOPHAN ANALYSIS

Tuesday February 11th 2020

performed by **IO Support** at 10:45 EST

No user has signed off on this report

33 out of 33 tests completed.

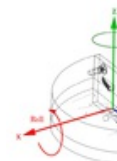
Comments:

1. 12 sheets
IO Support

Summary ●

Summary information

Date of Scan:	2019-11-15
Site Name:	OUSHF Brystdiagnostisk Senter
Tomo unit manufacturer and identification:	GE HEALTHCARE
Slice number of the test plane:	13
In this report:	AP is referenced as x
	Lateral is referenced as y
	SI is referred to as z



Chest wall offset

Series Description: ROUTINE3D_VOL_RCC

Slice	Lateral mm	Medial mm	Average mm
Slice 13	4.90	4.90	4.90
Slice 27	4.70	4.80	4.75

For 4.90:

Slice: Slice 13

For 4.70:

Slice: Slice 27

Noise and mean values table

Series Description: ROUTINE3D_VOL_RCC

Location	Mean Pixel Value	Variation from Average %	Noise
Region 1	1953	0.2	35.9
Region 2	1951	0.1	35.8
Region 3	1933	-0.8	35.4
Region 4	1957	0.4	35.0
Region 5	1948	0.0	35.8
Average	1949	0.0	35.6

For 1953:

Location: Region 1

For 1951:

Location: Region 2

For 1933:

Location: Region 3

For 1957:

Location: Region 4

For 1948:

Location: Region 5

For 1949:

Location: Average

Noise ratios

Series Description: ROUTINE3D_VOL_RCC

CNR	SNR
5.3	57.8

Remaining Signal

Series Description: ROUTINE3D_VOL_RCC

Slice	Lateral Ramp %	Medial Ramp %	Average %
Center slice	76.0	71.9	74.0
Average	74.3	76.0	75.1
Standard Dev	3.3	4.4	1.4

For 76.0:

Slice: Center slice

For 74.3:

Slice: Average

For 3.3:

Slice: Standard Dev

Slice Increments

Series Description: ROUTINE3D_VOL_RCC

Slice	Lateral Ramp mm	Medial Ramp mm	Average mm	Nominal mm	Average vs Nominal %
Center slice	1.06	0.91	0.98	1.00	-1.62
Average	1.01	0.98	1.00	1.00	-0.49
Standard Dev	0.13	0.10	0.02		

For 1.06:

Slice: Center slice

For 1.01:

Slice: Average

For 0.13:

Slice: Standard Dev

Slice width

Series Description: ROUTINE3D_VOL_RCC

Slice	Lateral Ramp mm	Medial Ramp mm	Average mm
Center slice	1.83	1.59	1.71
Average	1.67	1.72	1.70

Standard Dev

0.11

0.14

0.04

For 1.83:

Slice: Center slice

For 1.67:

Slice: Average

For 0.11:

Slice: Standard Dev

Spatial Linearity

Series Description: ROUTINE3D_VOL_RCC

Measured pixel size x (AP) mm	Measured pixel size y (Lateral) mm	Measured pixel x:y ratio	Pixel based measurement x %	Pixel based measurement y %
0.100	0.100	1.00	100	100

Z-axis geometry beads

Series Description: ROUTINE3D_VOL_RCC

Beads	Distance (z) mm	Variation %
1-2	9.79	-2.09
2-3	9.91	-0.93
Average	9.85	-1.51

For 9.79:

Beads: 1-2

For 9.91:

Beads: 2-3

For 9.85:

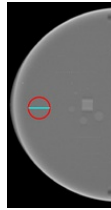
Beads: Average

Dicom header information

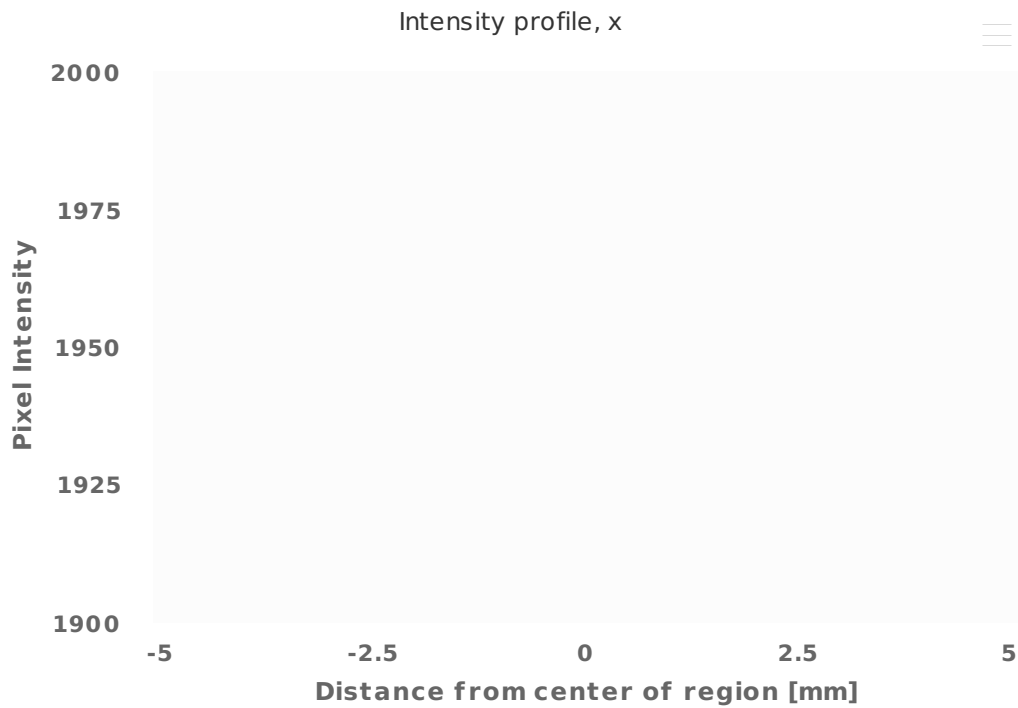
Station Name: **nourabds03mg**
Anode Target Material: **MOLYBDENUM**
Filter Material: **MOLYBDENUM**
Device Serial Number: **000011171210219068**
KVP: **26.01**
mAs: **N/A**
Pixel Size: **[0.100, 0.100]**
Slice Thickness: **1.00 mm**
Focal Spot: **0.30 mm**
Distance Source to Detector: **660.00 mm**
Organ Dose: **0.01**
Entrance Dose: **2.38 mGy**
Compression Force: **96.00 N**
Scan Arc: **0.00 °**
Tomo Type: **N/A**
Number of slices: **38**

Anterior region x (AP) intensity profile

[+ Add Comment](#)



Series description: ROUTINE3D_VOL_RCC



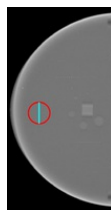
Uniformity

Horizontal raw profile

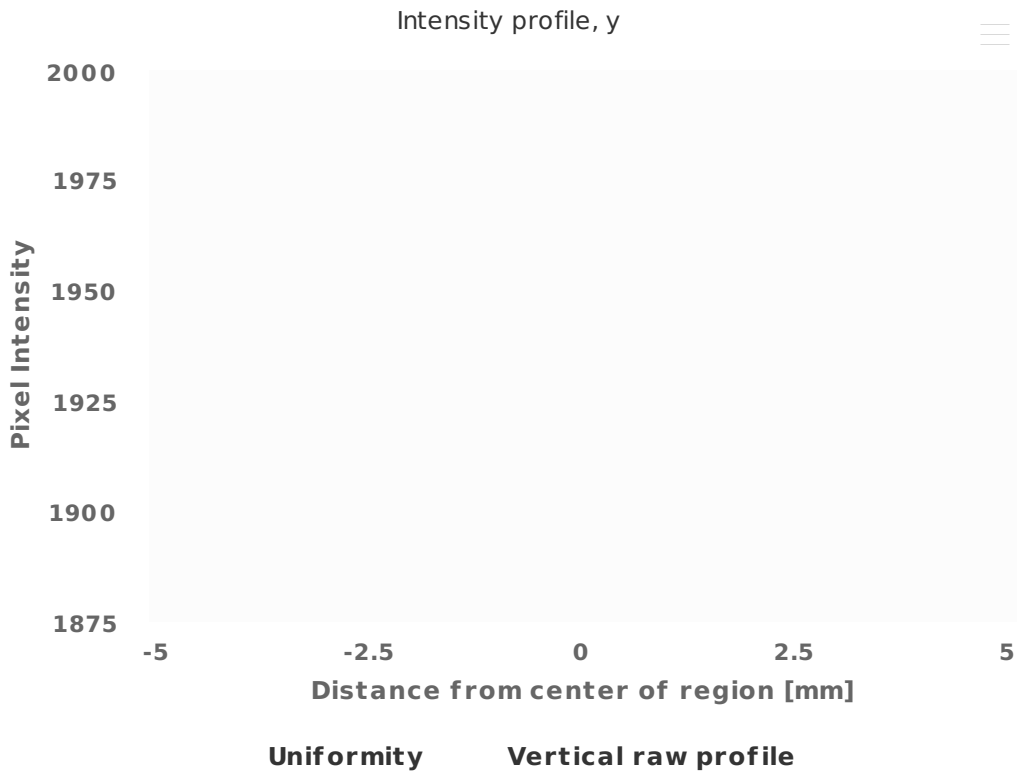
Series Description: ROUTINE3D_VOL_RCC

Anterior region y (lateral) intensity profile

[+ Add Comment](#)

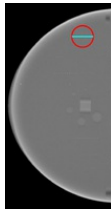


Series description: ROUTINE3D_VOL_RCC

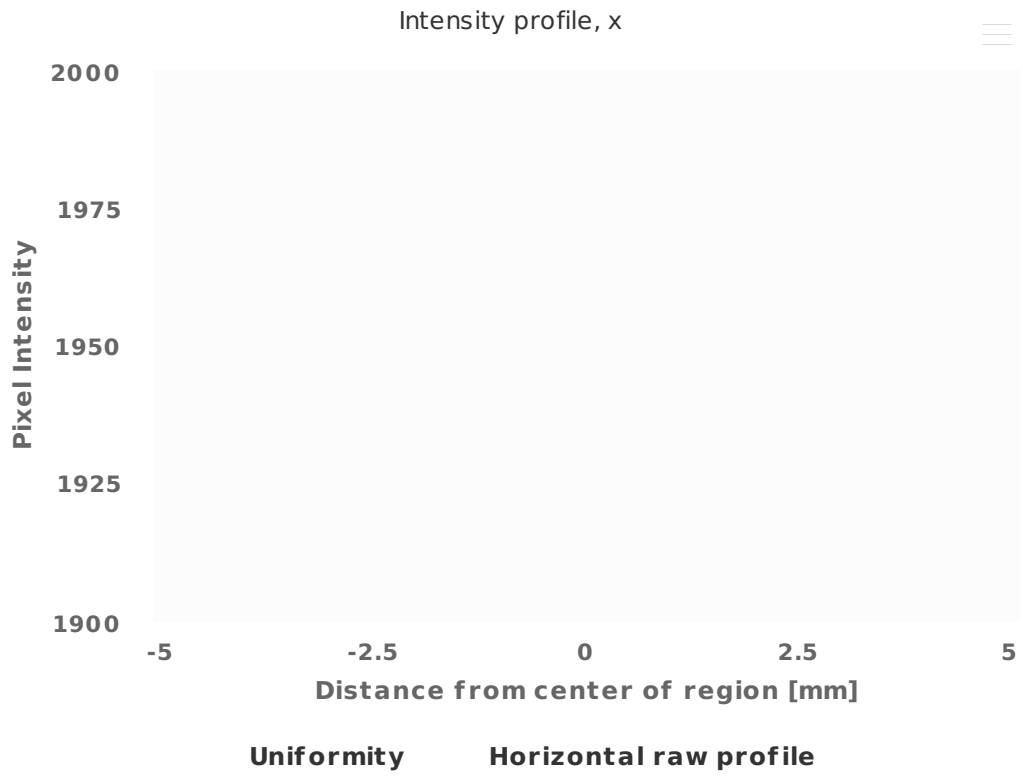


Series Description: ROUTINE3D_VOL_RCC

Lateral region x (AP) intensity profile [+ Add Comment](#)

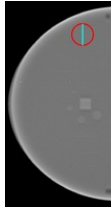


Series description: ROUTINE3D_VOL_RCC

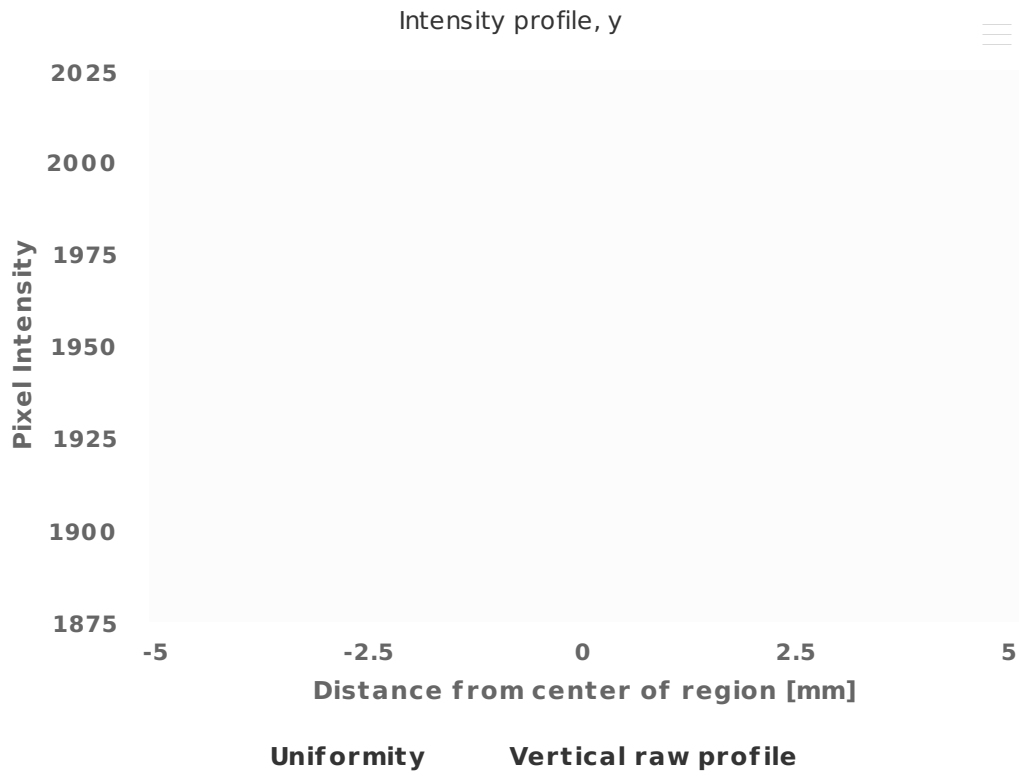


Series Description: ROUTINE3D_VOL_RCC

Lateral region y (lateral) intensity profile [+ Add Comment](#)

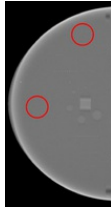


Series description: ROUTINE3D_VOL_RCC

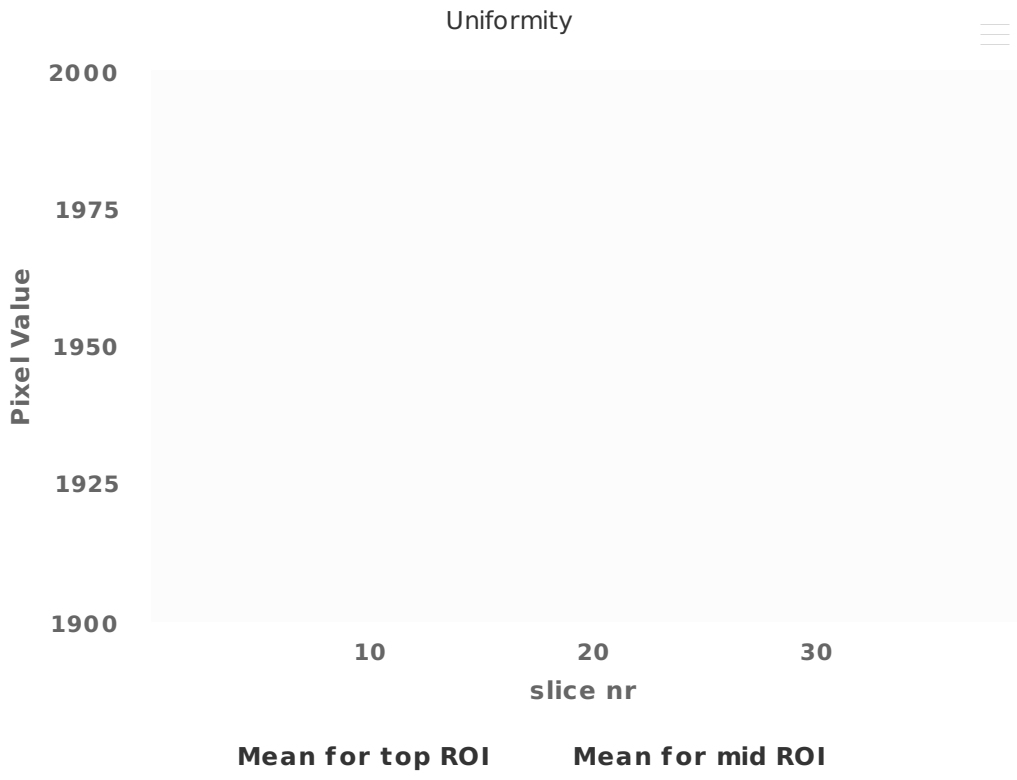


Series Description: ROUTINE3D_VOL_RCC

Mean and SD for z axis uniformity regions [+ Add Comment](#)

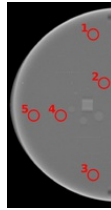


Series description: ROUTINE3D_VOL_RCC

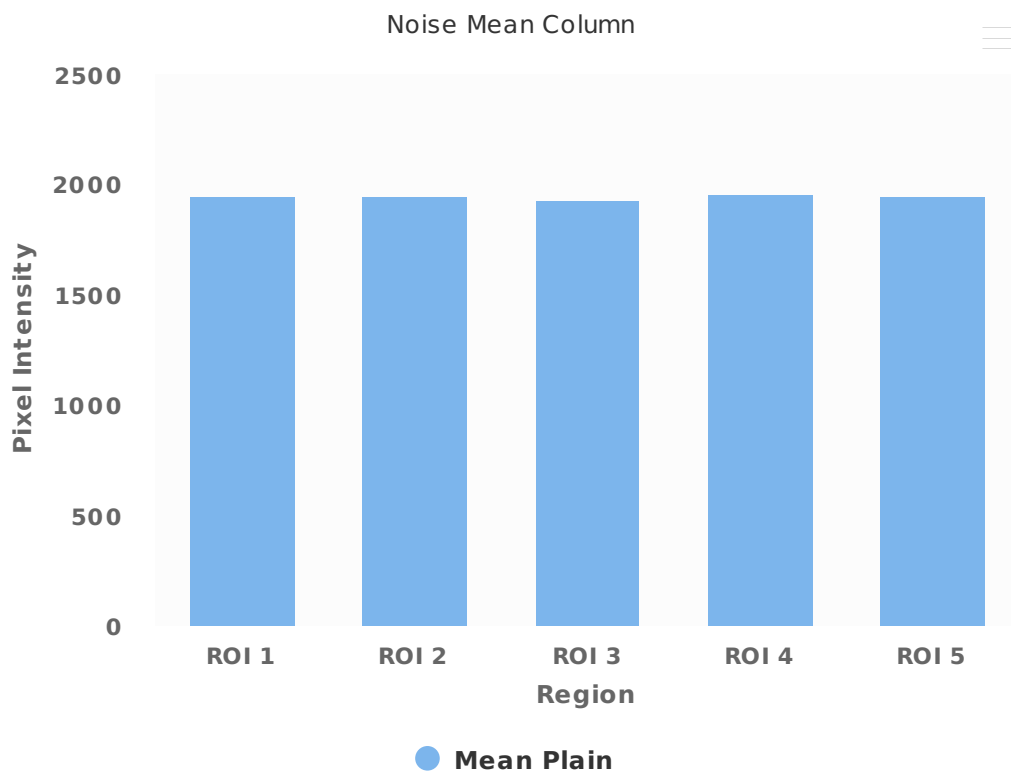


Series Description: ROUTINE3D_VOL_RCC

Mean values and noise inside ROIs + Add Comment



Series description: ROUTINE3D_VOL_RCC



Series Description: ROUTINE3D_VOL_RCC

Noise and mean values table + Add Comment

Series Description: ROUTINE3D_VOL_RCC

Location	Mean Pixel Values	Variation from Average %	Noise
Region 1	1953	0.2	35.9
Region 2	1951	0.1	35.8
Region 3	1933	-0.8	35.4
Region 4	1957	0.4	35.0
Region 5	1948	0.0	35.8
Average	1949	0.0	35.6

For 1953:

Location: Region 1

For 1951:

Location: Region 2

For 1933:

Location: Region 3

For 1957:

Location: Region 4

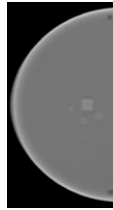
For 1948:

Location: Region 5

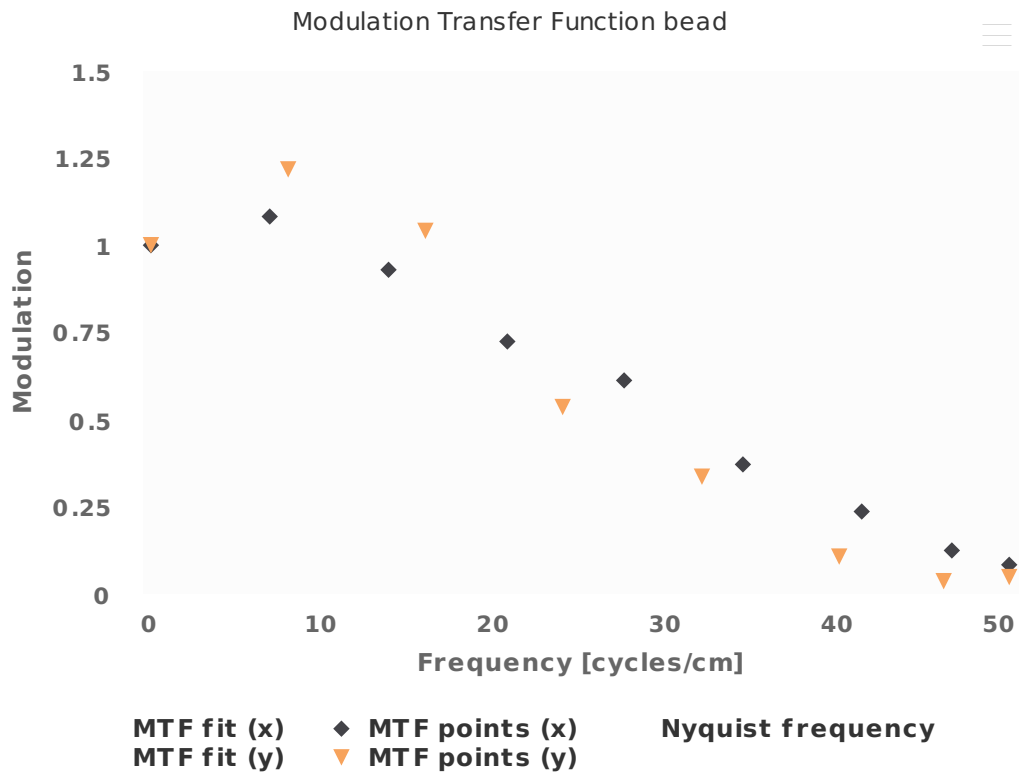
For 1949:

Location: Average

MTF from bead + Add Comment



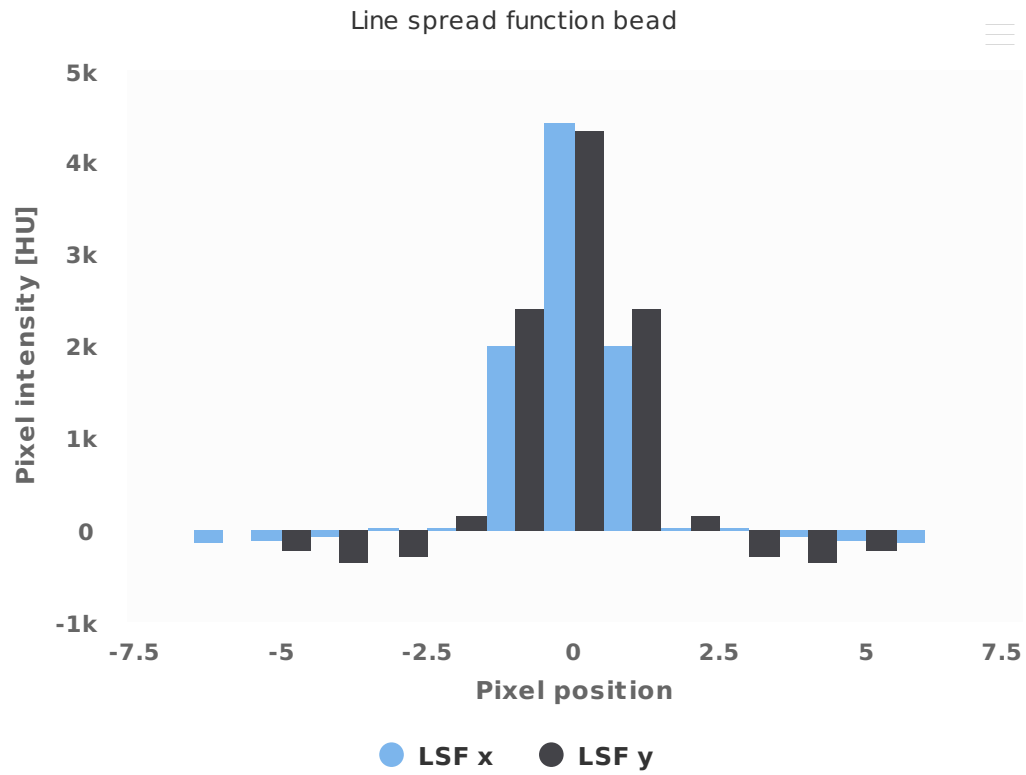
Series description: ROUTINE3D_VOL_RCC



Series Description: ROUTINE3D_VOL_RCC

LSF from bead + Add Comment

Series description: ROUTINE3D_VOL_RCC



Series Description: ROUTINE3D_VOL_RCC

Critical frequencies + Add Comment

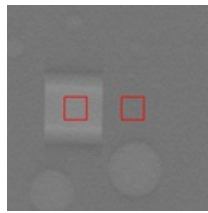
Series Description: ROUTINE3D_VOL_RCC

Slice	Direction	50% cycles/cm	10% cycles/cm	5% cycles/cm	2% cycles/cm
13	x	30.6	48.1	50.0	50.0
13	y	26.0	41.5	45.5	50.0

For 30.6:
 Slice: 13
 Direction: x
For 26.0:
 Slice: 13
 Direction: y

Contrast and Noise ●

Noise ratios



Series Description: ROUTINE3D_VOL_RCC

CNR mm	SNR mm
5.3	57.8

Spatial Linearity ●

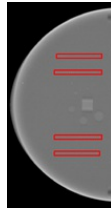
Spatial linearity (pixel size)

Series Description: ROUTINE3D_VOL_RCC

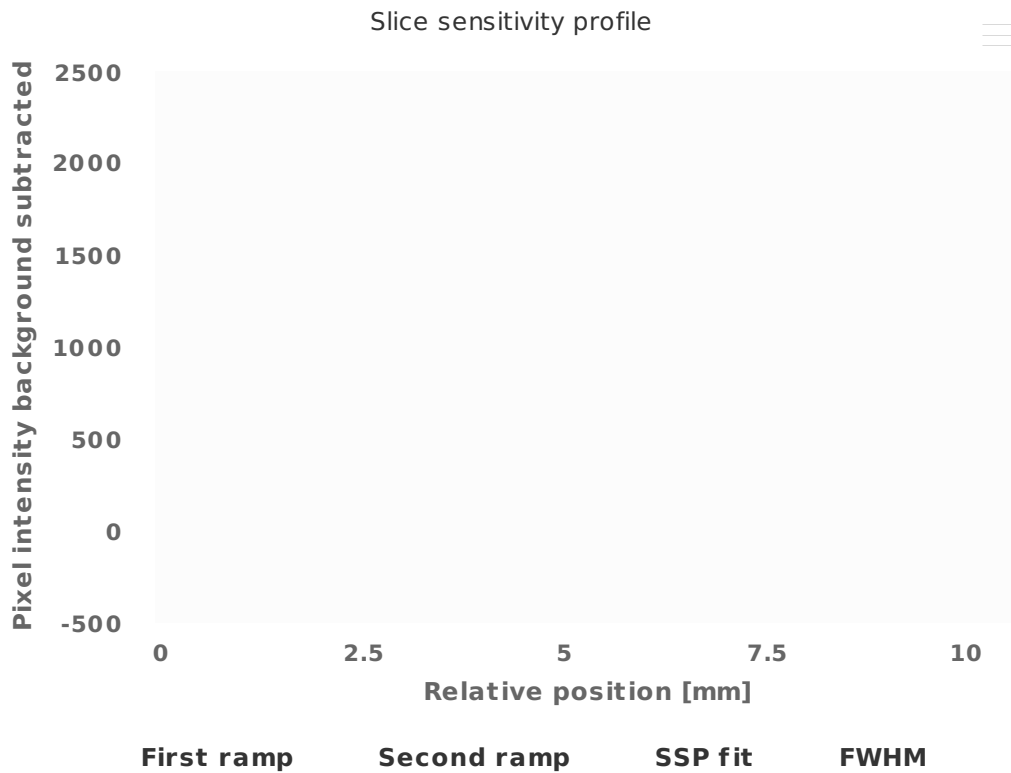
Measured pixel size x (AP) mm	Measured pixel size y (Lateral) mm	Measured pixel x:y ratio	Pixel based measurement x %	Pixel based measurement y %
0.100	0.100	1.00	100	100

SSP ●

SSP for lateral ramp set, center slice + Add Comment



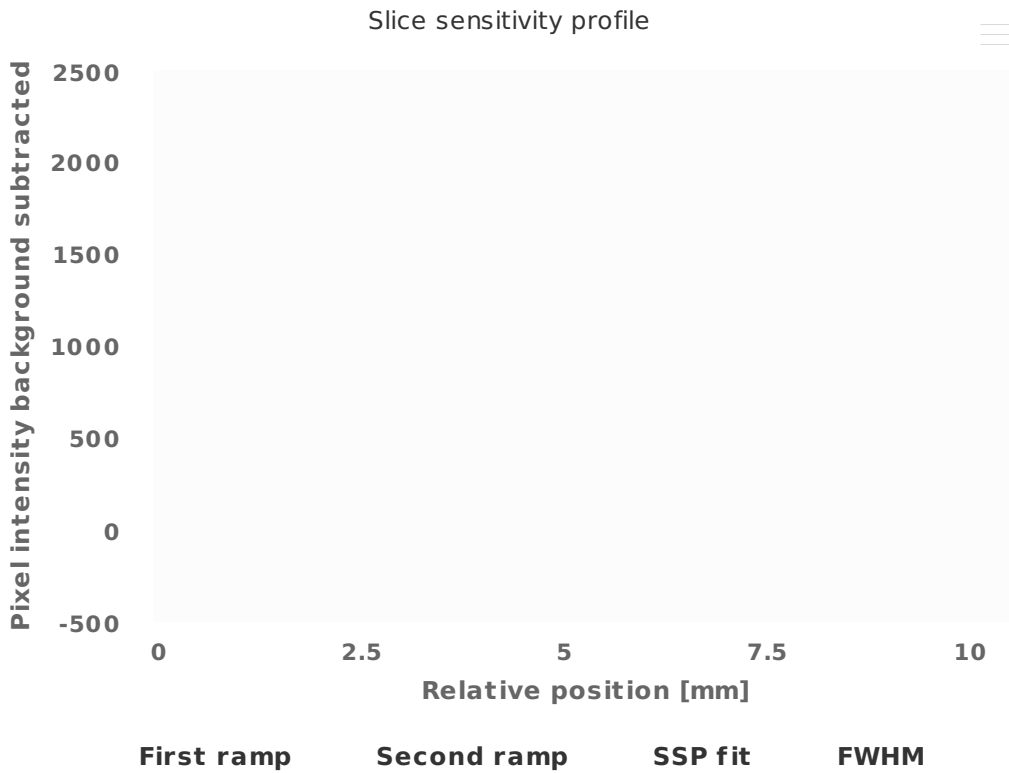
Series description: ROUTINE3D_VOL_RCC



Series Description: ROUTINE3D_VOL_RCC

SSP for medial ramp site, center slice + Add Comment

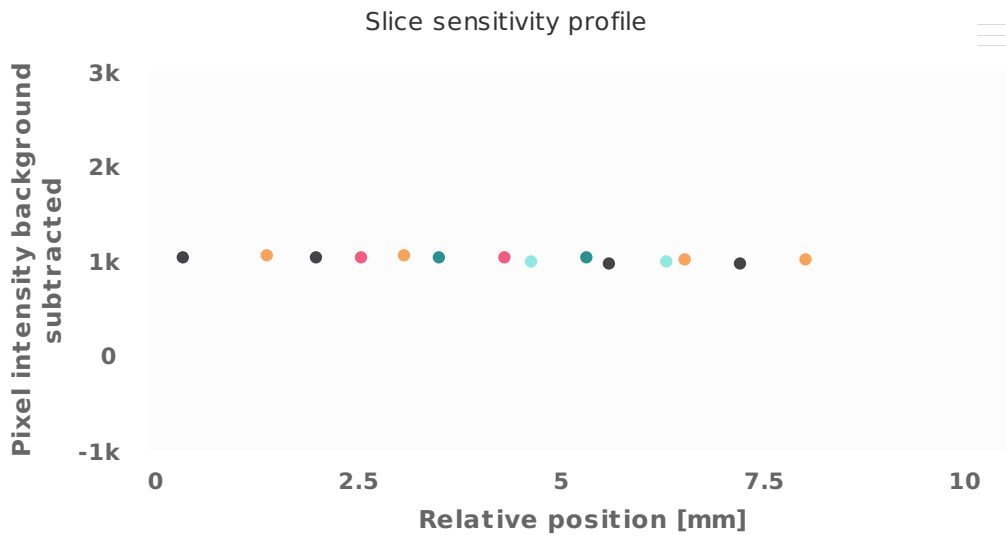
Series description: ROUTINE3D_VOL_RCC



Series Description: ROUTINE3D_VOL_RCC

SSP\s with FWHM shown (lateral ramp sets) + Add Comment

Series description: ROUTINE3D_VOL_RCC

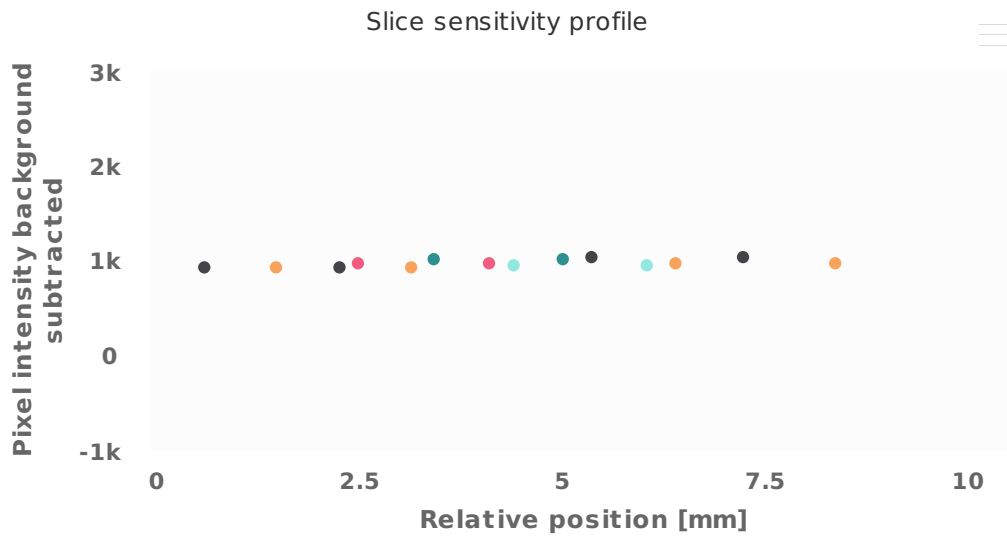


- | | |
|---------------------|--------------------|
| SSP fit slice nr 10 | ● FWHM slice nr 10 |
| SSP fit slice nr 11 | ● FWHM slice nr 11 |
| SSP fit slice nr 12 | ● FWHM slice nr 12 |
| SSP fit slice nr 13 | ● FWHM slice nr 13 |
| SSP fit slice nr 14 | ● FWHM slice nr 14 |
| SSP fit slice nr 15 | ● FWHM slice nr 15 |
| SSP fit slice nr 16 | ● FWHM slice nr 16 |

Series Description: ROUTINE3D_VOL_RCC

SSP\s with FWHM shown (medial ramp sets) + Add Comment

Series description: ROUTINE3D_VOL_RCC



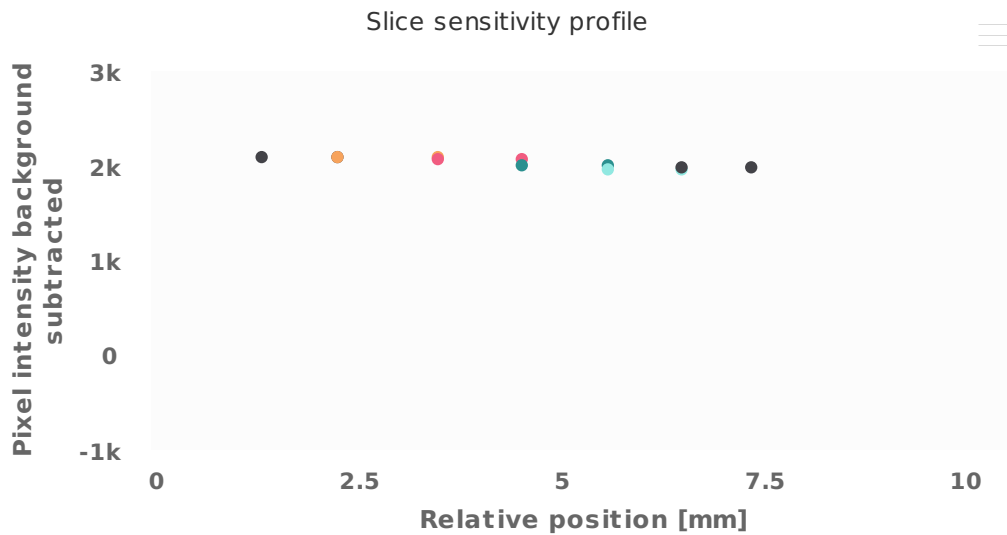
- SSP fit slice nr 10
- SSP fit slice nr 11
- SSP fit slice nr 12
- SSP fit slice nr 13
- SSP fit slice nr 14
- SSP fit slice nr 15
- SSP fit slice nr 16
- FWHM slice nr 10
- FWHM slice nr 11
- FWHM slice nr 12
- FWHM slice nr 13
- FWHM slice nr 14
- FWHM slice nr 15
- FWHM slice nr 16

Series Description: ROUTINE3D_VOL_RCC

Multiple SSPs with slice increments shown upper ramp sets

+ Add Comment

Series description: ROUTINE3D_VOL_RCC



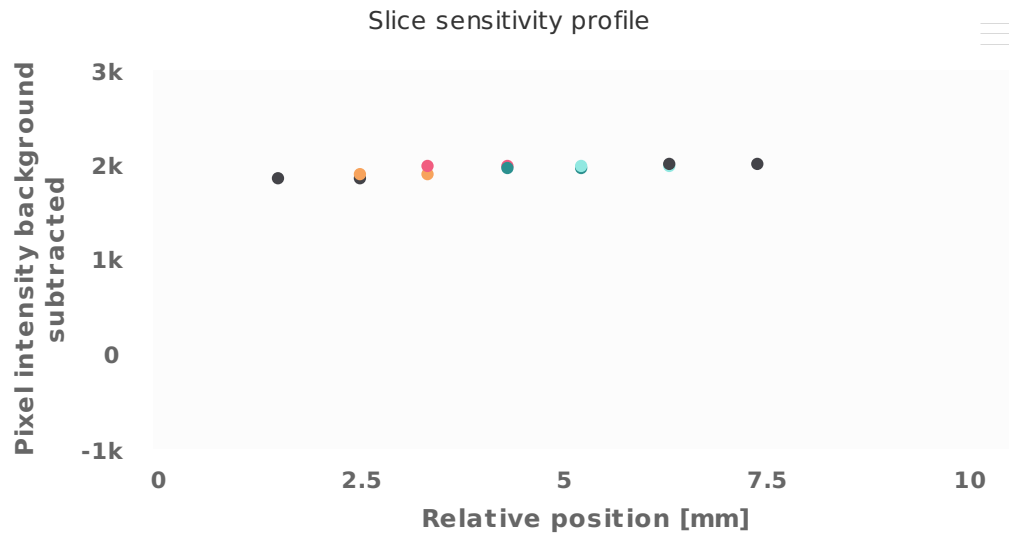
- SSP fit slice nr 10
- SSP fit slice nr 11
- SSP fit slice nr 12
- SSP fit slice nr 13
- SSP fit slice nr 14
- SSP fit slice nr 15
- SSP fit slice nr 16
- Increment slice nr 10
- Increment slice nr 11
- Increment slice nr 12
- Increment slice nr 13
- Increment slice nr 14
- Increment slice nr 15

Series Description: ROUTINE3D_VOL_RCC

Multiple SSPs with slice increments shown lower ramp sets

+ Add Comment

Series description: ROUTINE3D_VOL_RCC



- SSP fit slice nr 10 ● Increment slice nr 10
- SSP fit slice nr 11 ● Increment slice nr 11
- SSP fit slice nr 12 ● Increment slice nr 12
- SSP fit slice nr 13 ● Increment slice nr 13
- SSP fit slice nr 14 ● Increment slice nr 14
- SSP fit slice nr 15 ● Increment slice nr 15
- SSP fit slice nr 16

Series Description: ROUTINE3D_VOL_RCC

Slice widths + Add Comment

Series Description: ROUTINE3D_VOL_RCC

Slice	Upper mm	Lower mm	Average mm
Slice nr 10	1.64	1.67	1.65
Slice nr 11	1.69	1.69	1.69
Slice nr 12	1.76	1.61	1.69
Slice nr 13 [center]	1.83	1.59	1.71
Slice nr 14	1.66	1.65	1.65
Slice nr 15	1.63	1.88	1.76
Slice nr 16	1.48	1.96	1.72
Average	1.67	1.72	1.70
Standard Dev	0.11	0.14	0.04

For 1.64:

Slice: Slice nr 10

For 1.69:

Slice: Slice nr 11

For 1.76:

Slice: Slice nr 12

For 1.83:

Slice: Slice nr 13 [center]

For 1.66:

Slice: Slice nr 14

For 1.63:

Slice: Slice nr 15

For 1.48:

Slice: Slice nr 16

For 1.67:

Slice: Average

For 0.11:

Slice: Standard Dev

Remaining signal within the increment

Series Description: ROUTINE3D_VOL_RCC

Slice	Upper %	Lower %	Average %
Slice 10	74.6	80.6	77.6
Slice 11	78.2	73.5	75.8
Slice 12	77.6	70.6	74.1
Slice 13	76.0	71.9	74.0
Slice 14	73.0	75.3	74.1
Slice 15	69.7	82.1	75.9
Slice 16	70.6	78.0	74.3
Average	74.3	76.0	75.1
Standard Dev	3.3	4.4	1.4

For 74.6:

Slice: Slice 10

For 78.2:

Slice: Slice 11

For 77.6:

Slice: Slice 12

For 76.0:

Slice: Slice 13

For 73.0:

Slice: Slice 14

For 69.7:

Slice: Slice 15

For 70.6:

Slice: Slice 16

For 74.3:

Slice: Average

For 3.3:

Slice: Standard Dev

Slice Increments

Series Description: ROUTINE3D_VOL_RCC

Slice	Upper mm	Lower mm	Average mm	Nominal mm	Average vs Nominal %
Slice 10	0.95	1.01	0.98	1.00	-1.67
Slice 11	1.22	0.82	1.02	1.00	2.02
Slice 12	1.05	0.99	1.02	1.00	2.44
Slice 13	1.06	0.91	0.98	1.00	-1.62

Slice 14	0.89	1.08	0.98	1.00	-1.69
Slice 15	0.86	1.09	0.98	1.00	-2.41
Average	1.01	0.98	1.00	1.00	-0.49
Standard Dev	0.13	0.10	0.02		

For 0.95:

Slice: Slice 10

For 1.22:

Slice: Slice 11

For 1.05:

Slice: Slice 12

For 1.06:

Slice: Slice 13

For 0.89:

Slice: Slice 14

For 0.86:

Slice: Slice 15

For 1.01:

Slice: Average

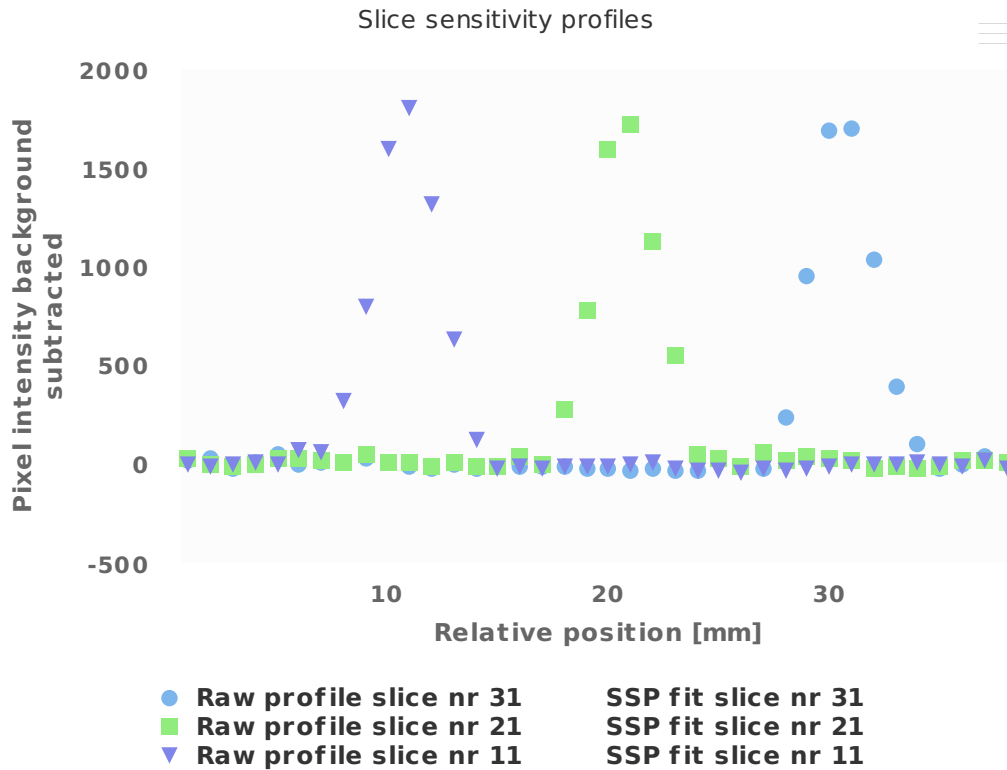
For 0.13:

Slice: Standard Dev

Z-axis geometry ●

SSPs for z-axis geometry beads + Add Comment

Series description: ROUTINE3D_VOL_RCC



Series Description: ROUTINE3D_VOL_RCC

Z-axis geometry beads + Add Comment



Series Description: ROUTINE3D_VOL_RCC

Beads	Distance (z) mm	Variation %
1-2	9.79	-2.09
2-3	9.91	-0.93
Average	9.85	-1.51

For 9.79:

Beads: 1-2

For 9.91:

Beads: 2-3

For 9.85:

Beads: Average

