

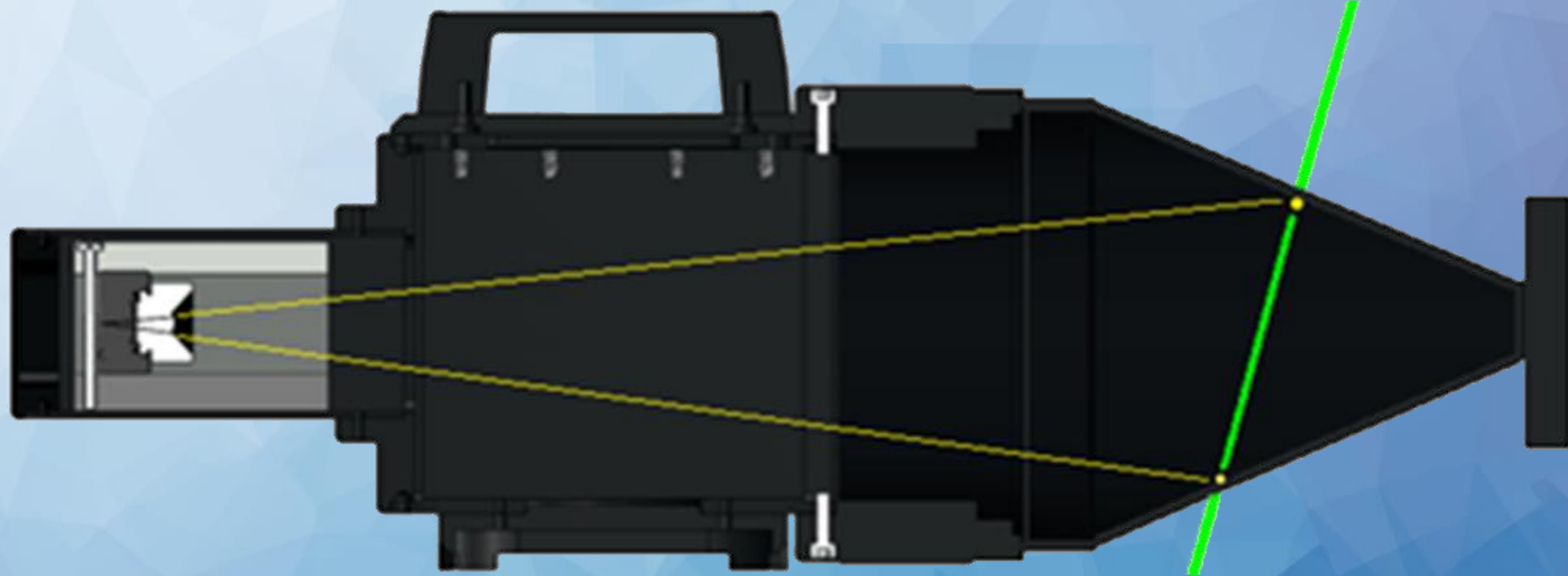
**XRV-124**

**Starshot Isocenter  
Analysis and Beam  
Metrology**

# XRV-124 3D Phantom

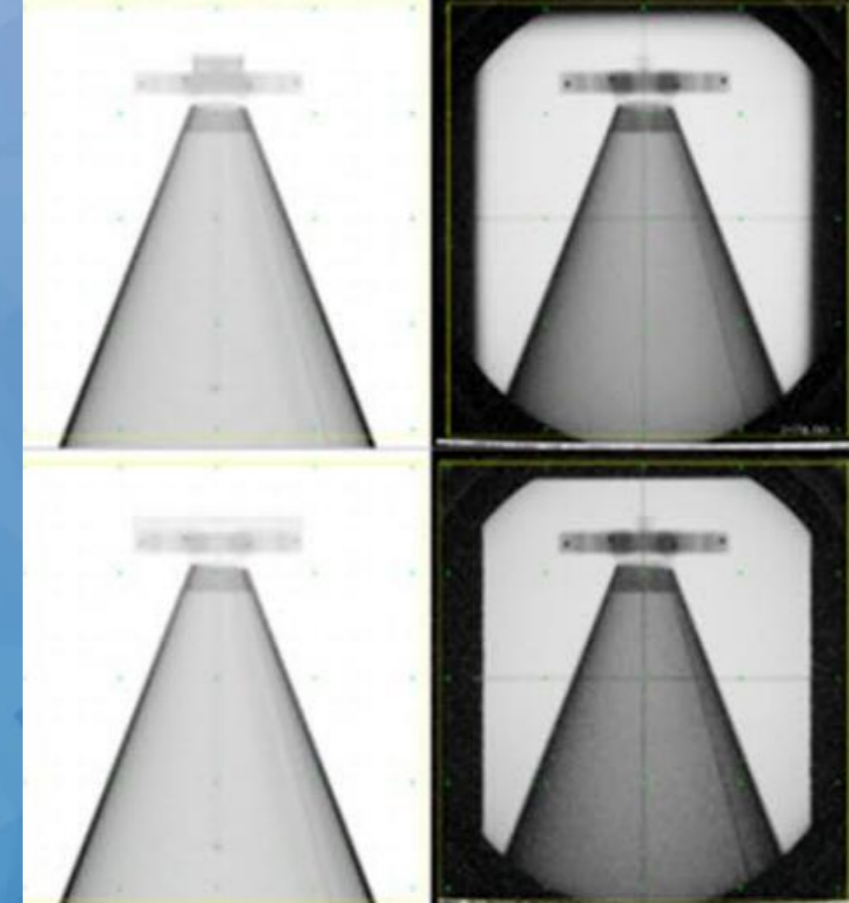
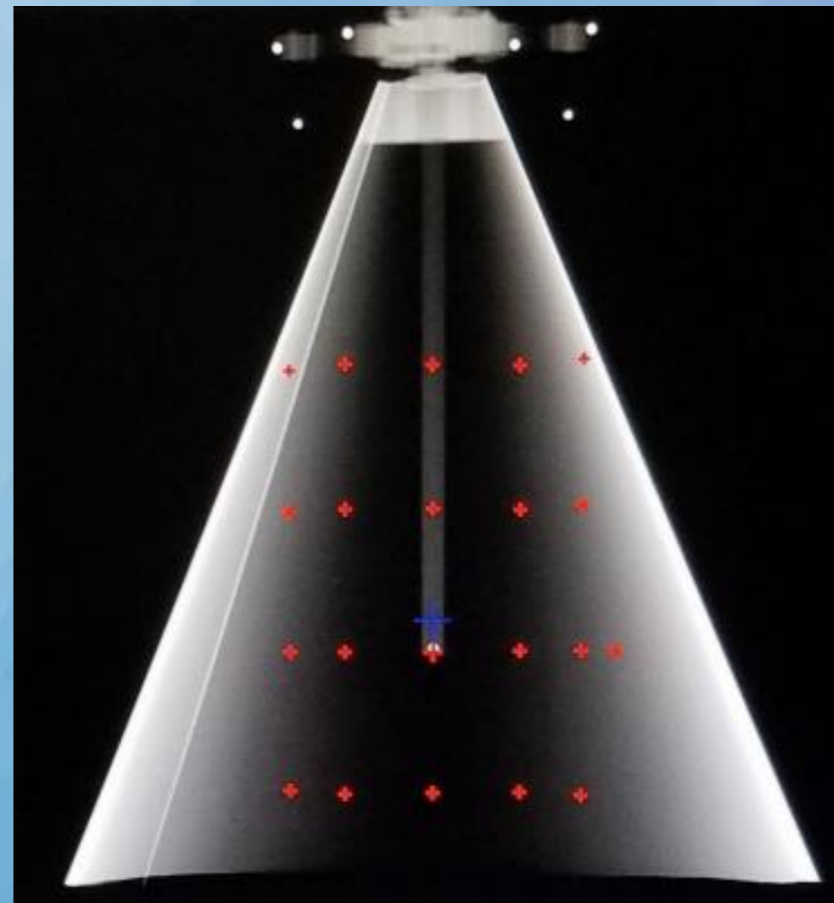


Rotationally symmetric scintillator cone captures beam data at any gantry angle without moving the phantom



The protons or x-rays pass through the imaging cone, producing Entry and Exit spots to measure the beam position, vector, and profile

# Phantom Setup Procedure

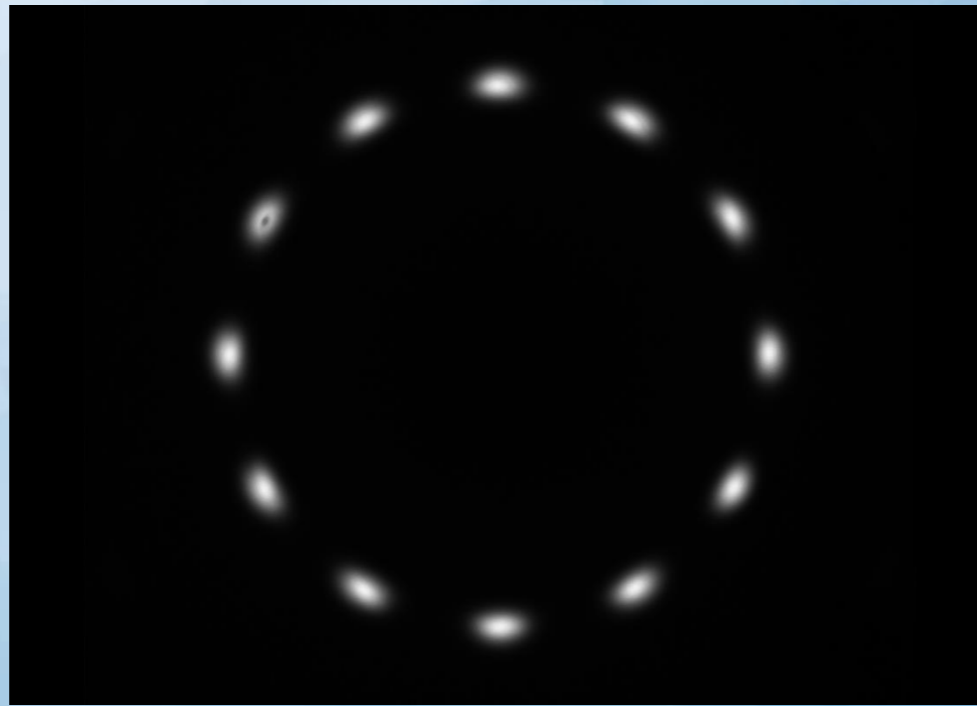


Laser alignment using external features

kV alignment using Fiducial BBs

Direct targeting of Probe-145 Fiducial within the cone

# Starshot Gantry Isocenter Verification



XRV-100/124 BeamWorks 2.57

**BeamWorks**

QA Plan Capture | QA Plan Review | ProfileView | Trend Analysis | MLC/PBS Trend Analysis | Script Control | Settings

C:\BeamWorks124PlusStarShotDemo\2022\_0329\_0001\output.txt loaded.

**Load** Select Capture Data for Review **Previous** **Next**

C:\BeamWorks124PlusStarShotDemo\2022\_0329\_0001

**Reload** **Display Current Capture** Target XYZ (mm): 0.00, 0.00, 145.50 Isofocus XYZ (mm): -0.07, 0.17, 145.89

**View Beam Vectors** **View Capture Log** Style: General Isocenter Isocenter XYZ (mm): -0.14, 0.32, 145.91 Notes:

Excel

**Excel Analysis**  Isocenter Trend  Custom Template  Dimensional Binning  Beam Spot Gaussian Fit  Open as CSV (No Template)

Beam

1 of 13

**View Beam Profiles**

Data Summary  
 X: 0.15 mm Y: 0.00 mm Z: 146.13 mm  
 Theta: 90.19 degrees Phi: 90.09 degrees  
 Gantry Angle: 179.81 degrees  
 Arc Width: 10.06 mm  
 Radial Width: 10.14 mm  
 2D Width: 10.12 mm  
 Exit Gray: 188.40 Entry Gray: 239.95  
 Exit/Entry Gray Ratio: 0.785  
 Target Distance: 0.645 mm  
 Frame Count: 1

Press F1 for Help Copyright © 2022 Logos Systems Int'l

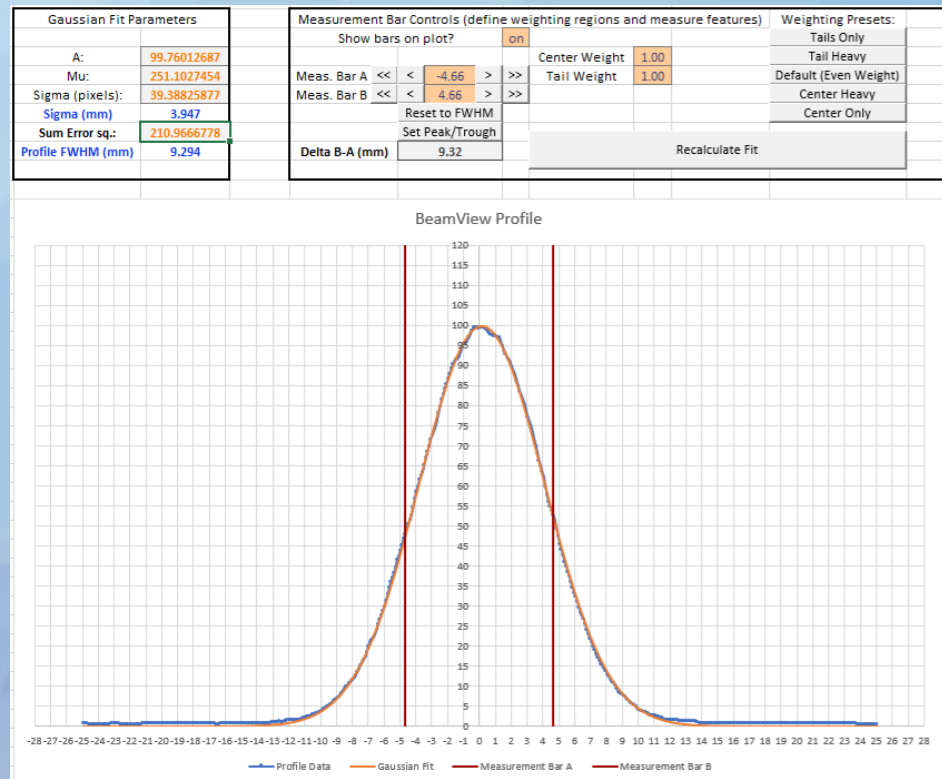
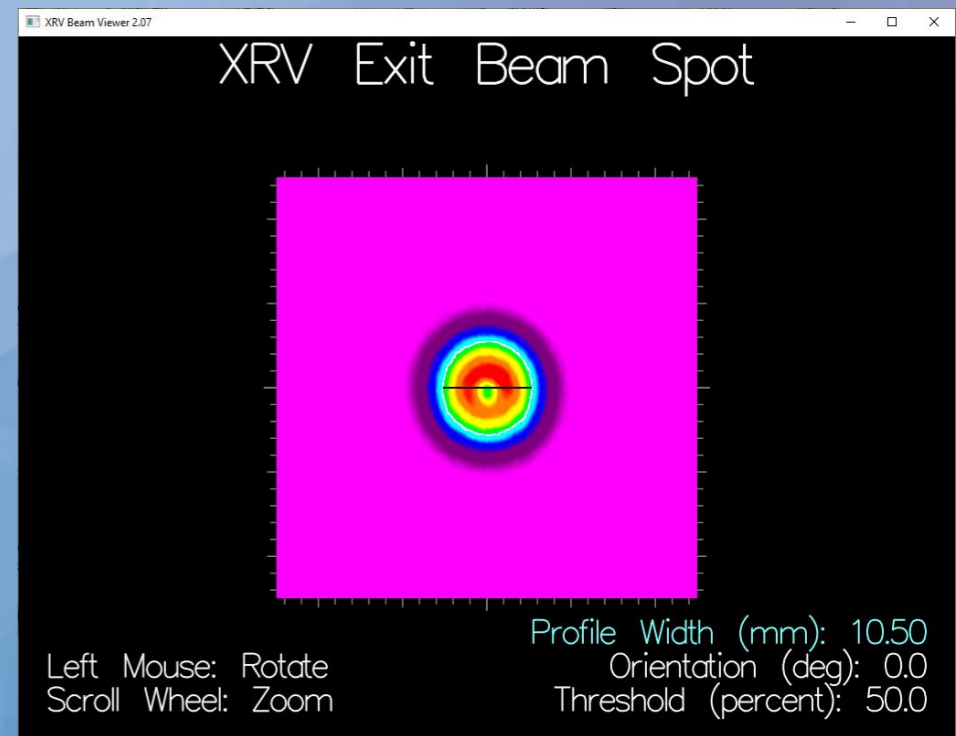
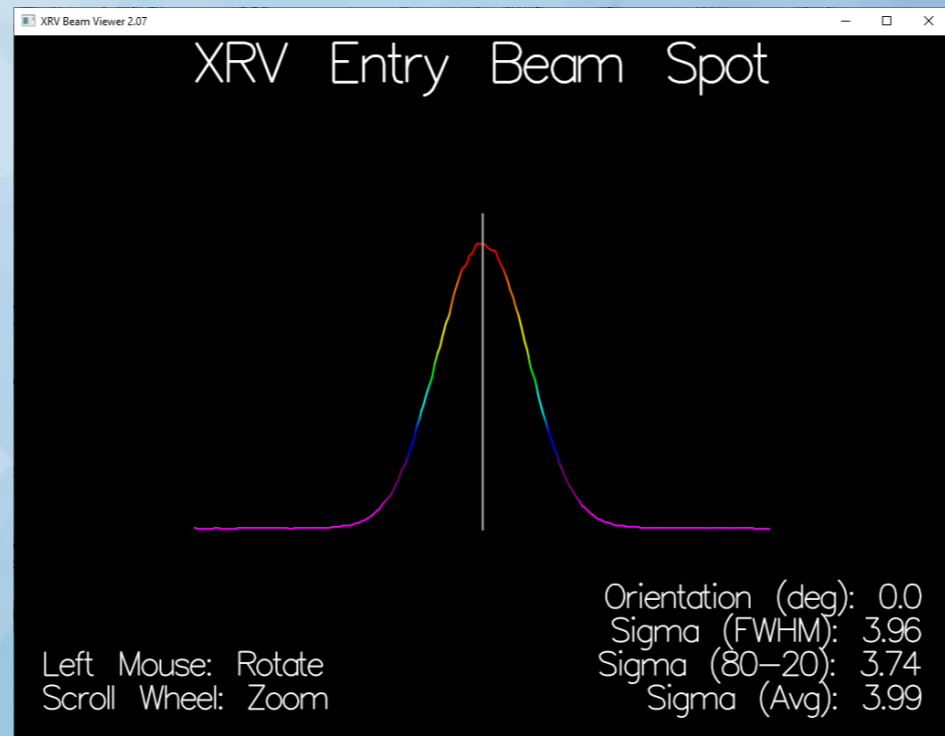
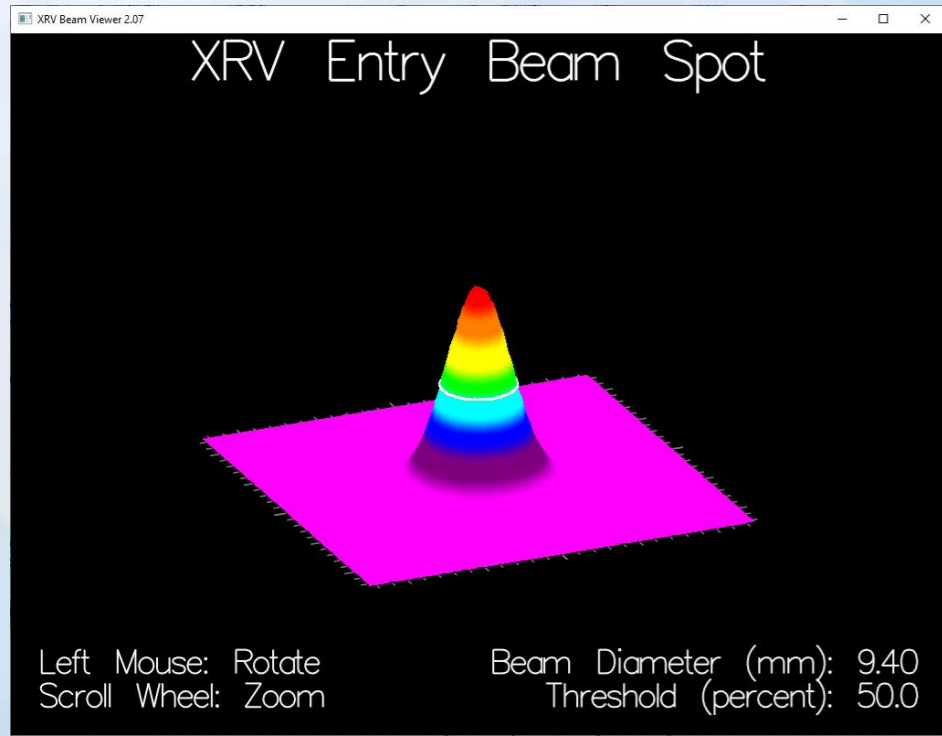
XRV OpenGL Vector View 4.4

**XRV Vector View**

Press F1 for Help  
Press F2 for More Data

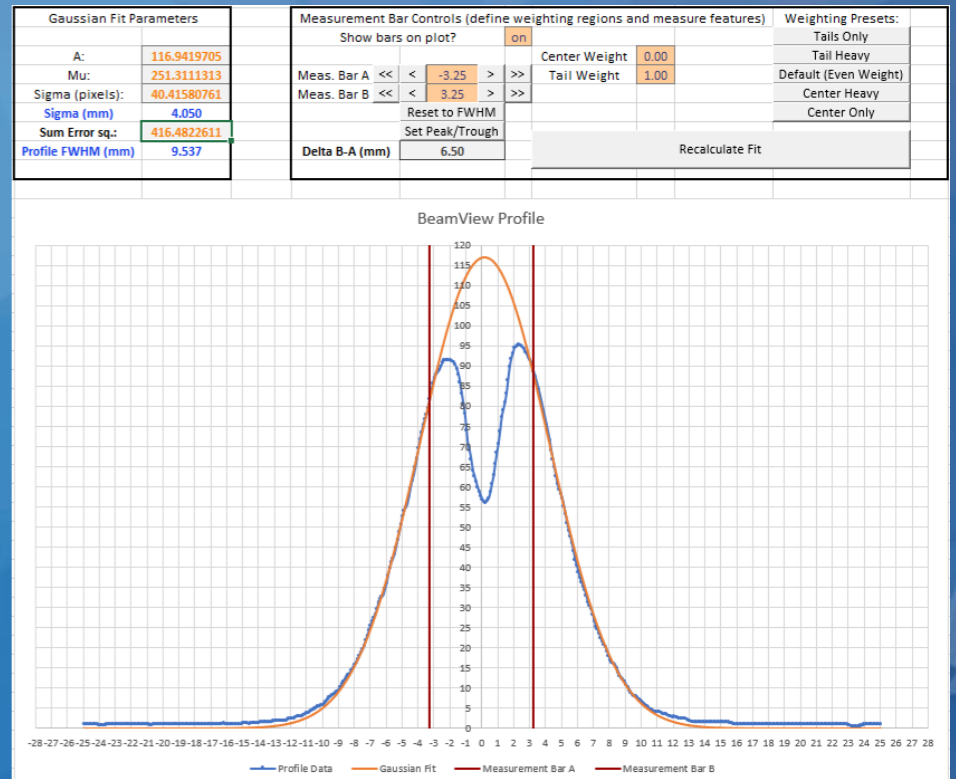
Isocenter XYZ (mm):  
-0.1, 0.3, 145.9  
Avg Dist (mm):  
XYZ: 0.2  
XY: 0.1

	A	B	C	D	E	F	G	H
1	VectorView Isocenter Data		V4.2					
2	Isocenter XYZ (mm):		-0.1	0.3	145.9			
3	Avg. XYZ Dist. (mm):		0.2					
4	Avg. XY Dist. (mm):		0.1					
5	Beam Count:		13					
6	Beam:	1 XYZ:	0.2	0.3	146.1	Dist:	0.4	
7	Beam:	2 XYZ:	-0.2	0.3	145.8	Dist:	0.1	
8	Beam:	3 XYZ:	-0.1	0.4	145.8	Dist:	0.2	
9	Beam:	4 XYZ:	-0.1	0.3	145.9	Dist:	0	
10	Beam:	5 XYZ:	-0.1	0.3	146	Dist:	0.1	
11	Beam:	6 XYZ:	-0.3	0.4	145.7	Dist:	0.3	
12	Beam:	7 XYZ:	-0.1	0.3	146	Dist:	0.1	
13	Beam:	8 XYZ:	0.1	0.4	145.7	Dist:	0.3	
14	Beam:	9 XYZ:	-0.2	0.2	145.3	Dist:	0.6	
15	Beam:	10 XYZ:	-0.1	0.2	145.8	Dist:	0.1	
16	Beam:	11 XYZ:	-0.3	0.5	145.9	Dist:	0.3	
17	Beam:	12 XYZ:	-0.1	0.3	146.1	Dist:	0.2	
18	Beam:	13 XYZ:	-0.2	0.3	146.4	Dist:	0.5	
19								

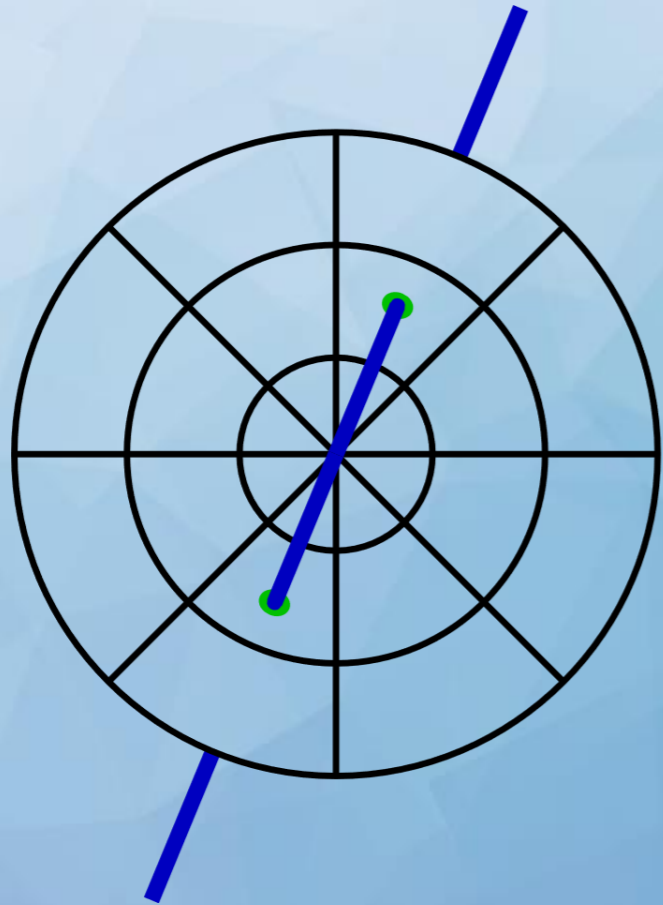


# Entry and Exit Spot Profile Measurements

Winston-Lutz using Probe-145 Fiducial Weight-adjusted Gaussian Fitting Module



# Digital Real-Time X-ray and Proton Beam Metrology Solutions



# Logos Systems

[www.LogosVisionSystem.com](http://www.LogosVisionSystem.com)