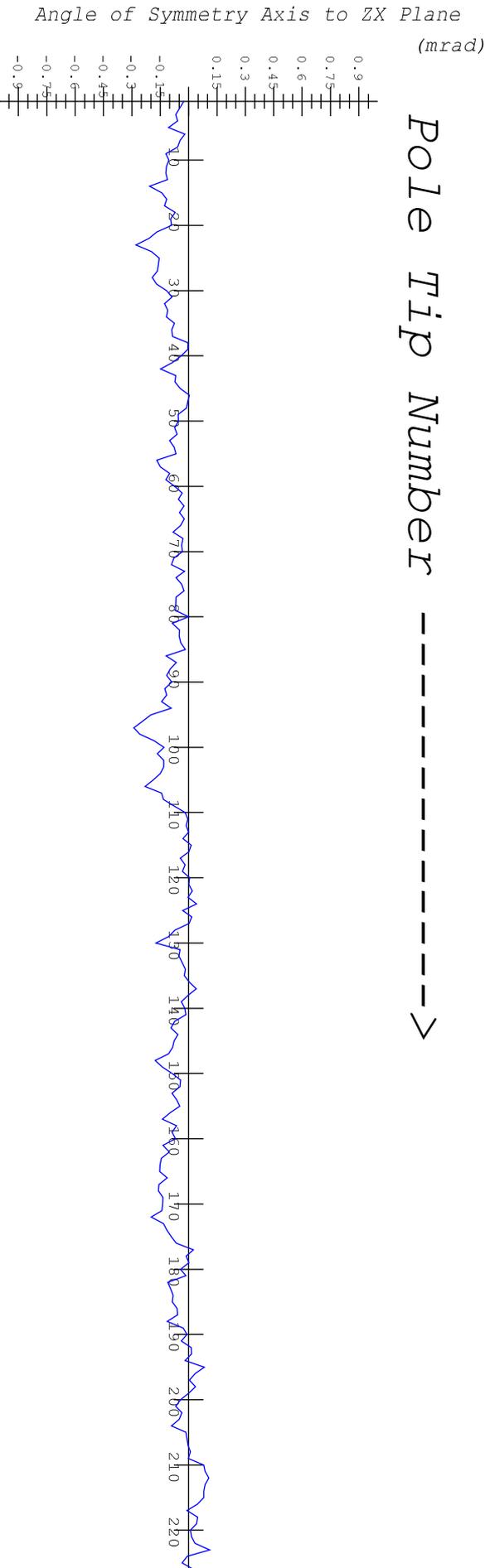


Pole Tip Number ----->



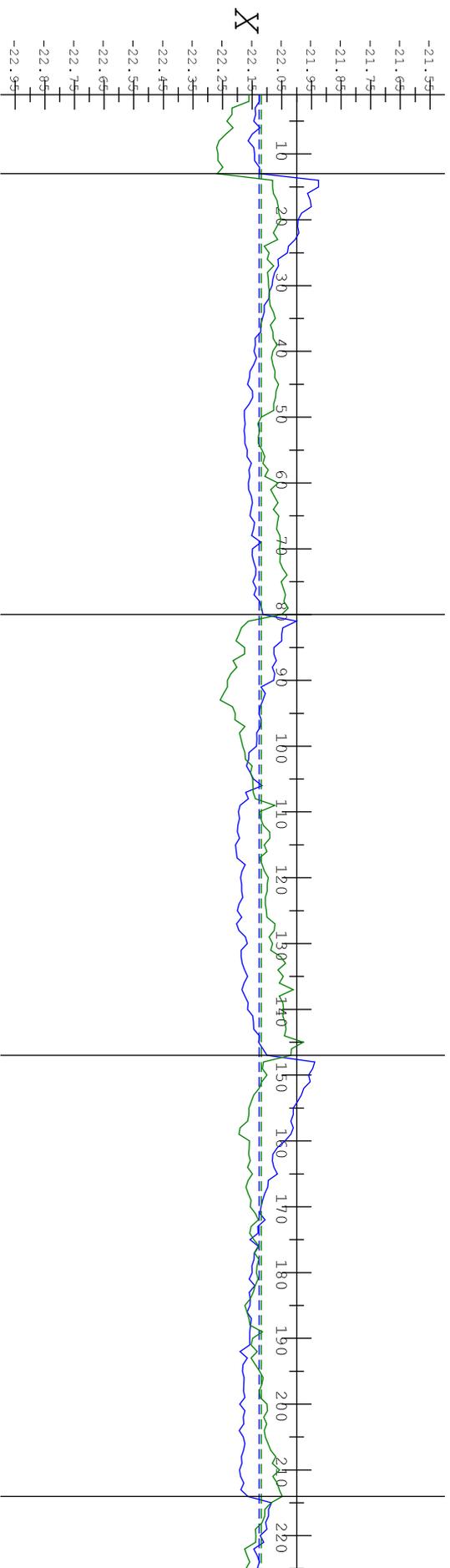
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips
 Included Angle is the angle between the Upper and Lower Pole Tips

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Undulator Pole Tip Angles
 Post Magnetic Alignment

DATE: 20-DEC-2007
 UNDUULATOR # 20
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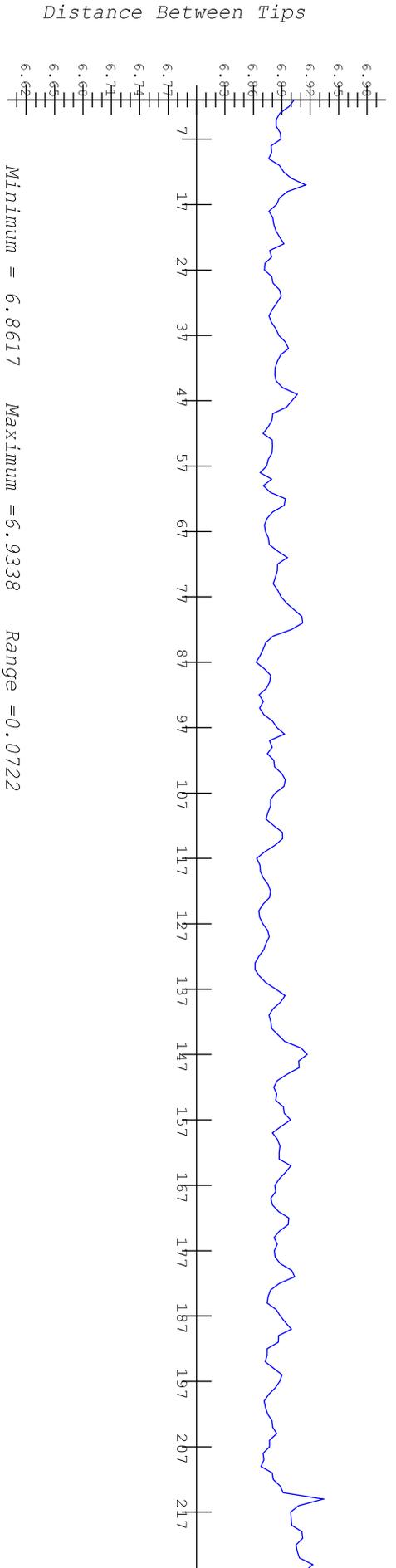
Pole Tip Number ----->



X values in mm

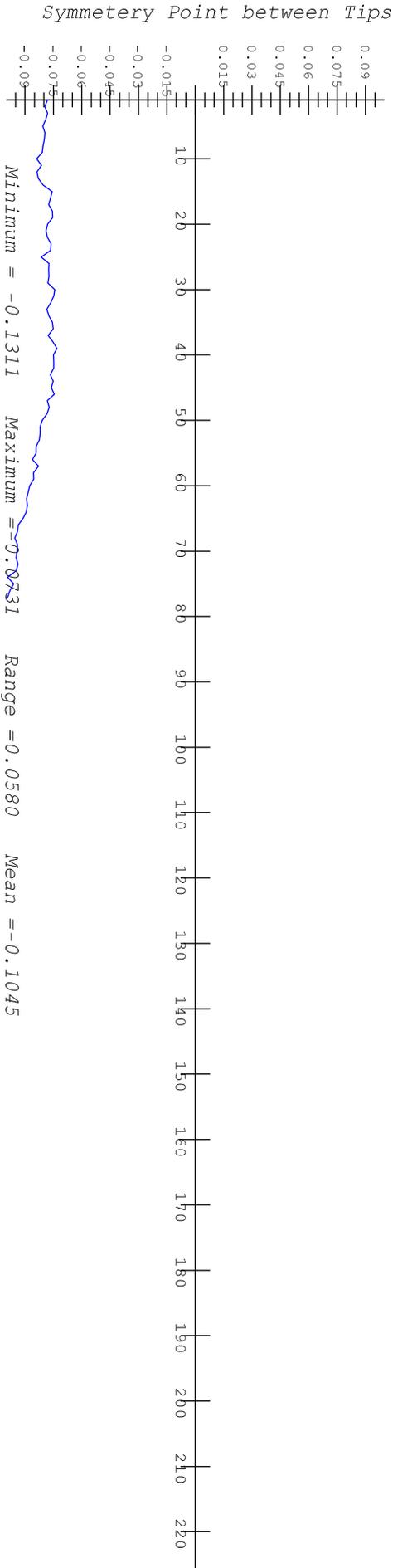
Green Solid = Point on front face of Upper Pole Tip 10mm above Magnetic C/L
 Green Dash = Mean value of all Upper Pole Tips 10mm above Magnetic C/L Mean value Upper Pole Tips = -22.119
 Blue Solid = Point on front face of Lower Pole Tip 10mm below Magnetic C/L
 Blue Dash = Mean value of all Lower Pole Tips 10mm below Magnetic C/L Mean value Lower Pole Tips = -22.126

<p>SLAC LCLS-MMF LEITZ CMM</p>	<p>Undulator Pole Tip Location Post Magnetic Alignment</p>	<p>DATE: 20-DEC-2007 UNDULATOR # 20 DATASET # 0002 PROGRAM VERSION 2.5</p>
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in mm

Pole Tip Number ----->



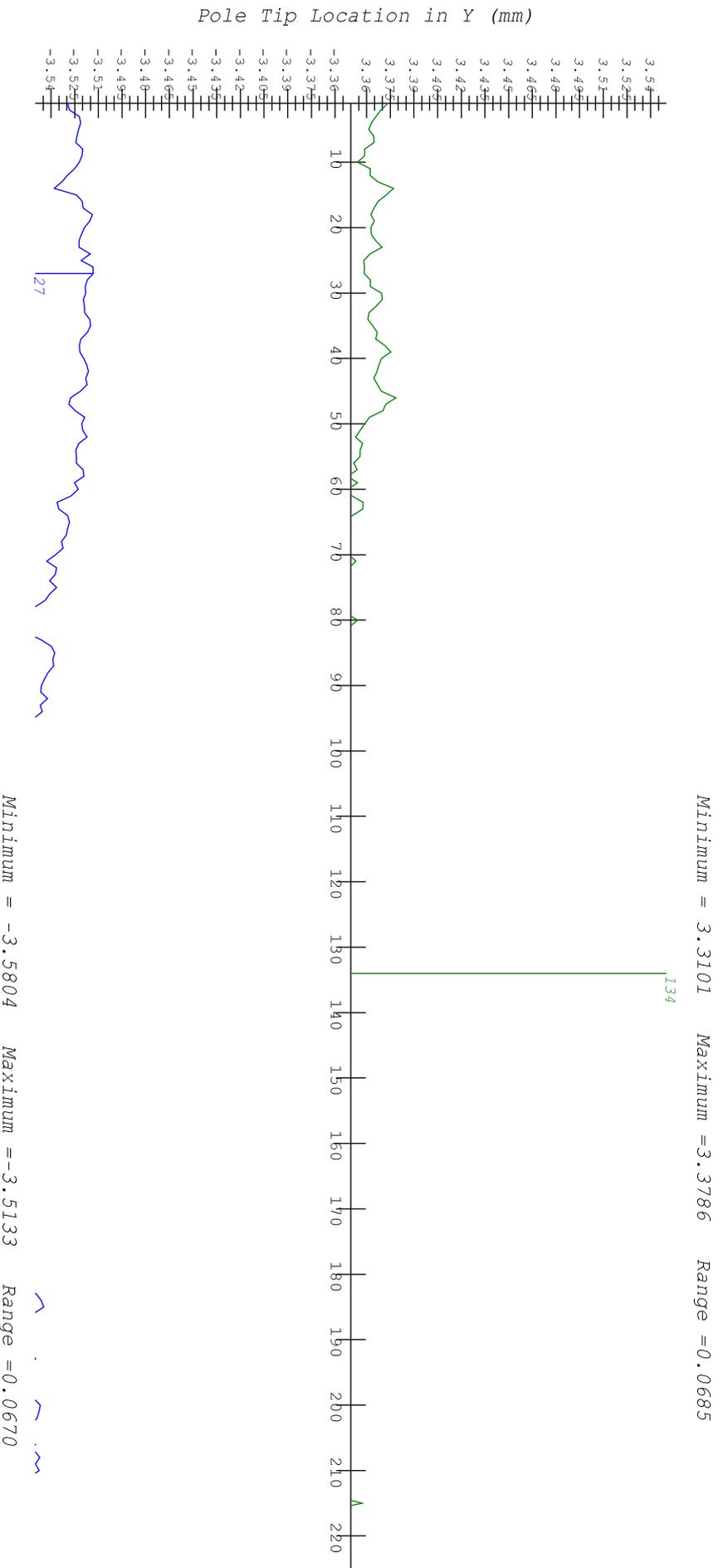
Symmetry Point is the symmetry point between the Upper and Lower Pole Tips were they intersect a YZ plane at the Magnetic C\L
 Broken Red line is Mean Value of Symmetry Points
 Distance Between Tips is the distance between the Upper and Lower Pole Tips were they intersect a YZ plane at the Magnetic C\L

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Undulator Pole Tip Location
 Post Magnetic Alignment

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Maximum Chamber Gap = 6.6202



Pole Tip Number ----->

Green = The position of the Upper Pole Tips at Magnetic C\L
Blue = The position of the Lower Pole Tips at Magnetic C\L
Max. Chamber Gap = The maximum width vacuum chamber that will fit centered on the Magnetic C\L (2*Min. Dev. from C\L)

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Undulator Pole Tip Location
Post Magnetic Alignment

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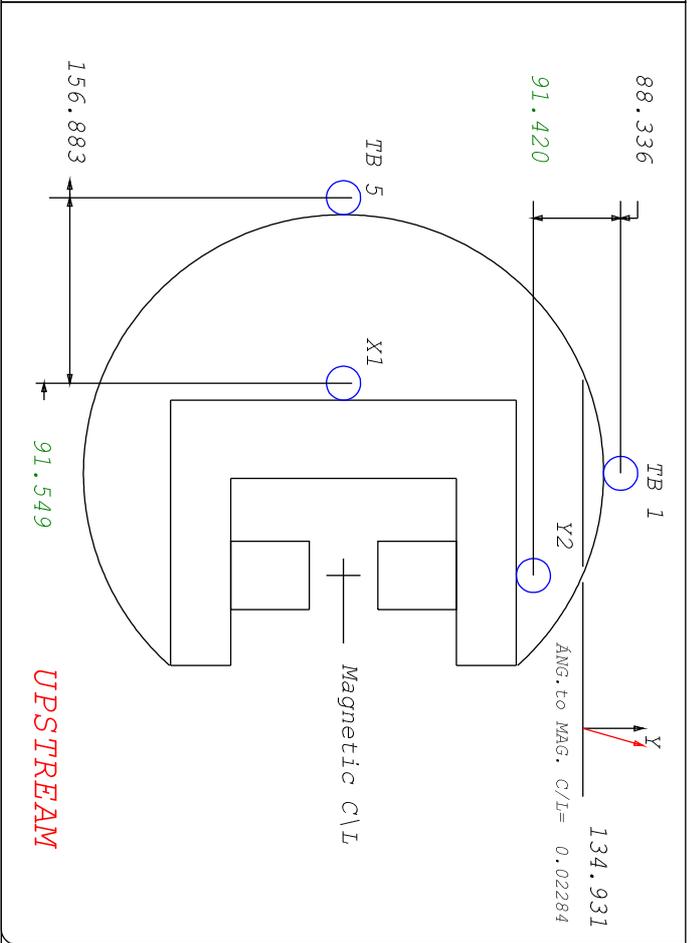
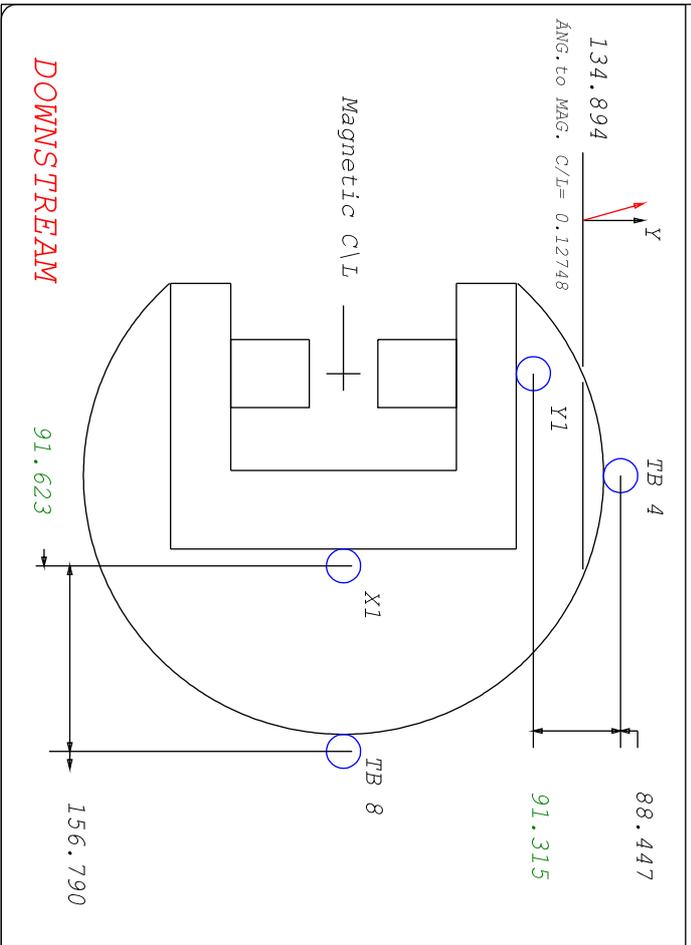
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.0549	179.7561	-1558.363
2	0.2033	179.6531	-584.7322
3	0.2000	179.6587	591.2162
4	0.2902	179.7620	1562.1302
5	248.4317	0.0211	-1558.283
6	248.4461	-0.0580	-584.7448
7	248.4089	-0.0058	591.4083
8	248.4126	-0.0495	1562.2188

	C/L Offset	Length
Top Magnetic Structure	-0.060	3380.911
Bottom Magnetic Structure	0.060	3381.135
Strongback	0.331	3400.001

Dimensions in mm

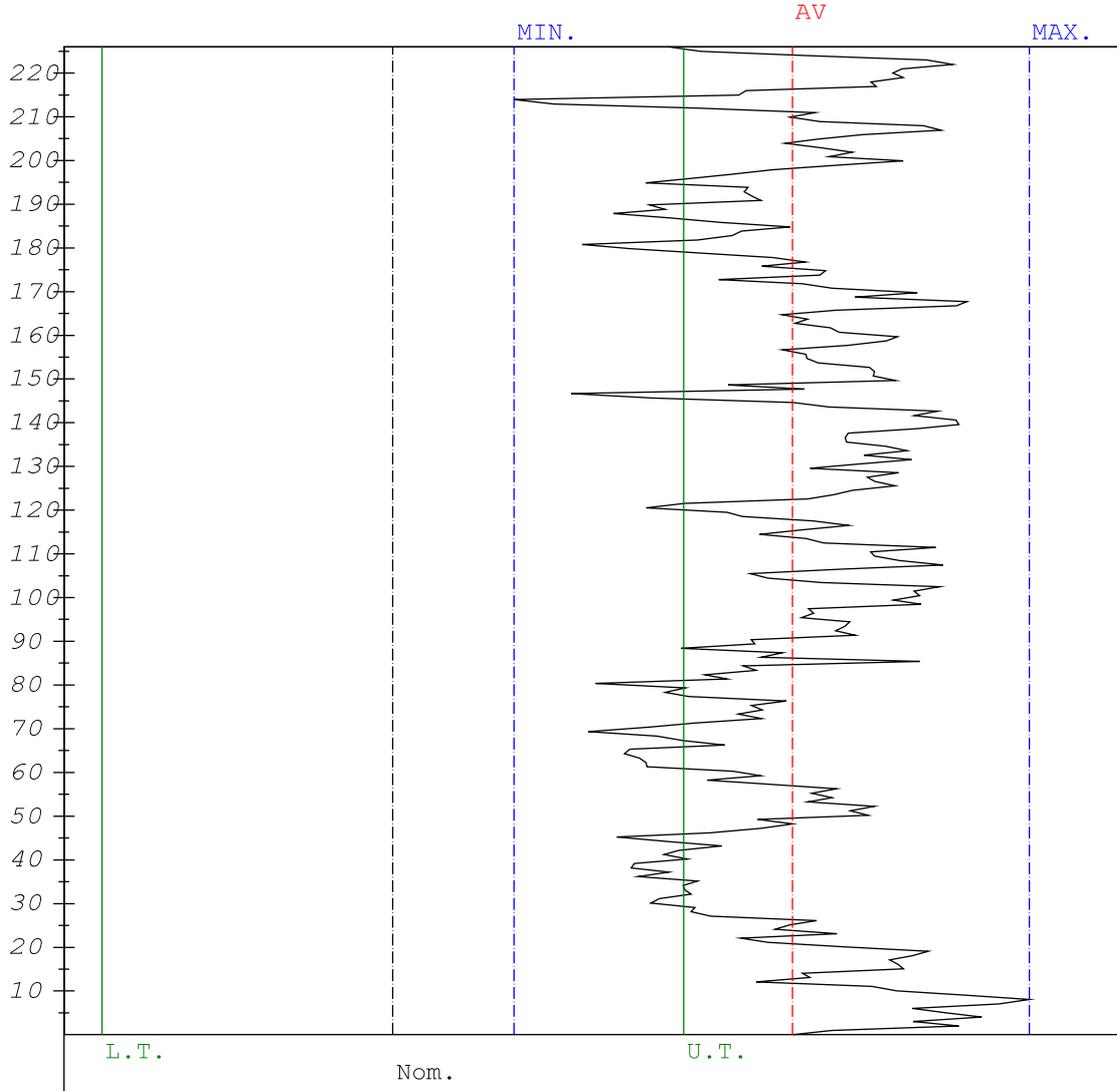
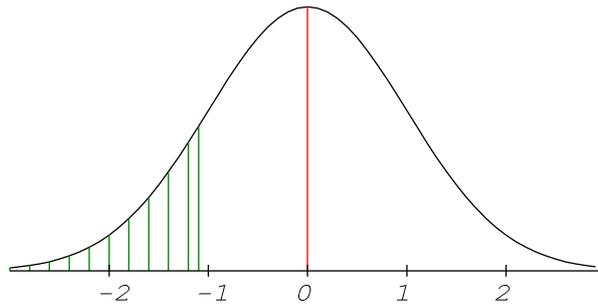
Angles in mrad



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Undulator Dimensional Fiducialization
Post Magnetic Alignment

DATE: 20-DEC-2007
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DATASET # 0002
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Nominal : 4.5000	Averag : 5.1871	Cent.-Dev. : 0.6871
Up. Tol. : 0.5	Maximum : 5.5939	U.Tol.Ex. > : 86.4 %
Low.Tol. : -0.5	Minimum : 4.7083	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.1706	In Tolerance: 13.6 %
Outlier : 0	Distribution : NOR	Dimension : mrad

<p>SLAC LCLS-MMF LEITZ CMM</p>	<p>Statistical Evaluation Pole Tip Gap Angle Post Magnetic Alignment</p>	<p>DATE:20-DEC-2007 UNDULATOR # 20 DATASET # 0002 PROGRAM VERSION 2.5</p>
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