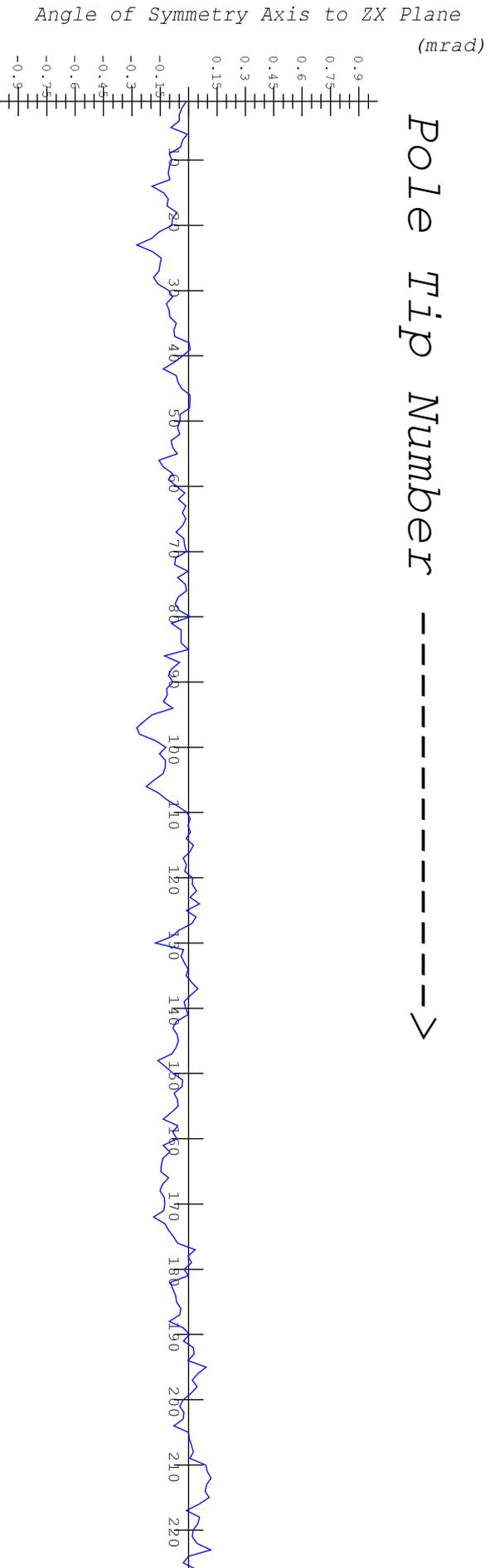


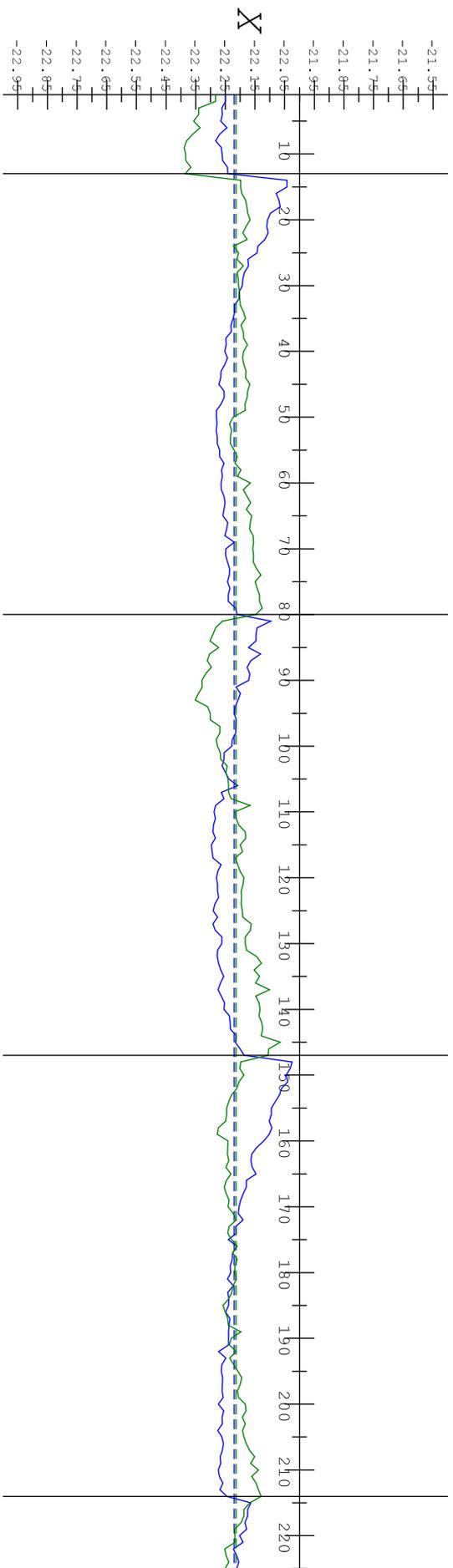
Pole Tip Number ----->



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

<p>SLAC LCLS-MMF LEITZ CMM</p>	<p>Undulator Pole Tip Angles Post Magnetic Alignment</p>	<p>DATE: 25-APR-2008 UNDULATOR #20 DATASET # 0003 PROGRAM VERSION 2.7</p>
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Pole Tip Number ----->

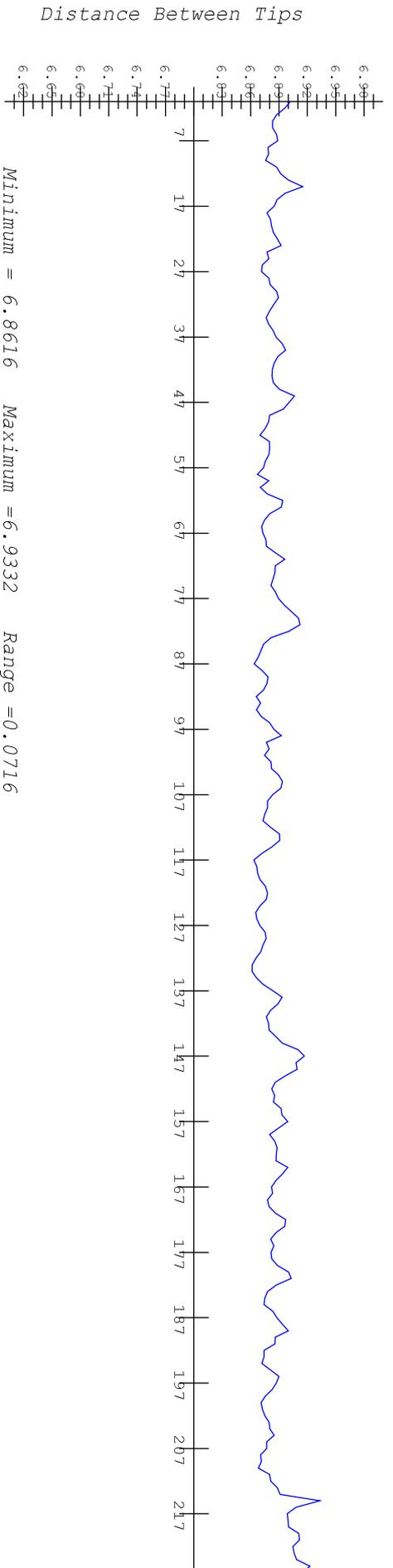


X values in mm
 Green Solid = Point on front face of Upper Pole Tip 10mm above Magnetic C/L
 Green Dash = Mean value of all Upper Pole Tips 10mm above Magnetic C/L Mean value Upper Pole Tips = -22.214
 Blue Solid = Point on front face of Lower Pole Tip 10mm below Magnetic C/L
 Blue Dash = Mean value of all Lower Pole Tips 10mm below Magnetic C/L Mean value Lower Pole Tips = -22.220

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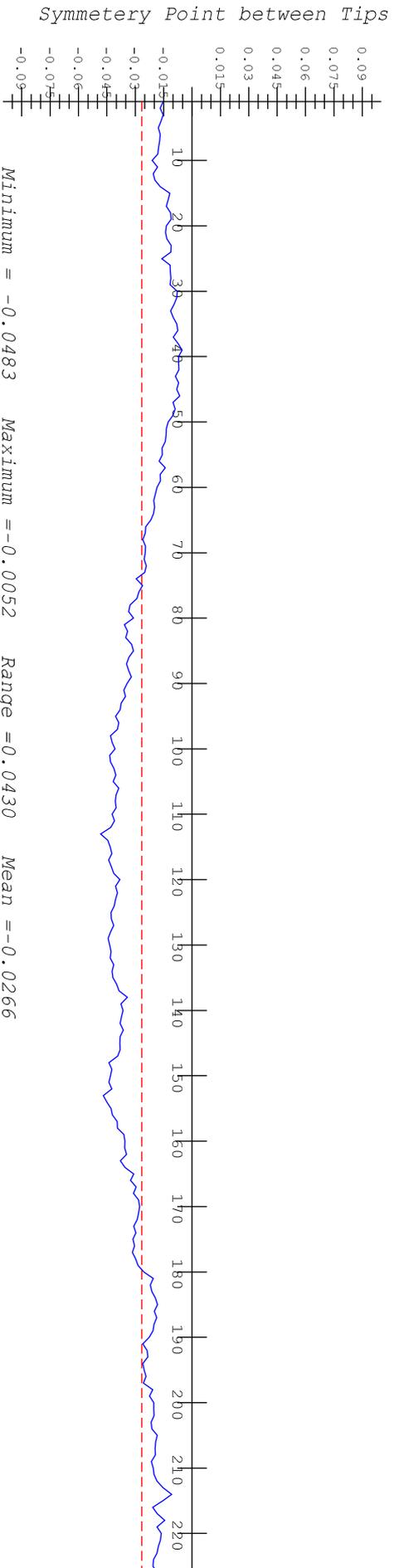
Undulator Pole Tip Location Post Magnetic Alignment

DATE: 25-APR-2008
 UNDULATOR #20
 DATASET # 0003
 PROGRAM VERSION 2.7



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

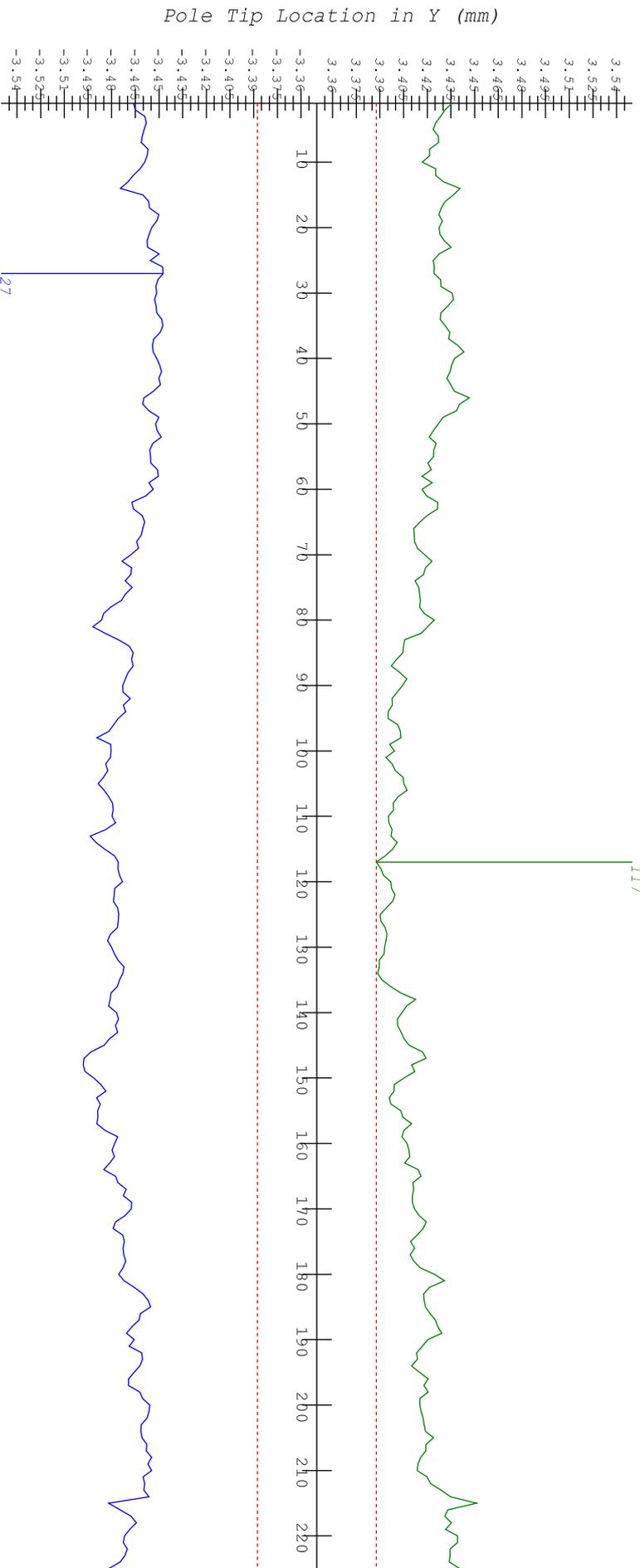
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Undulator Pole Tip Location
 Post Magnetic Alignment

DATE: 25-APR-2008
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 DATASET # 0003
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Maximum Chamber Gap = 6.7753

Minimum = 3.3877 Maximum = 3.4512 Range = 0.0636



Minimum = -3.4980 Maximum = -3.4473 Range = 0.0507

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

DATE: 25-APR-2008
UNDULATOR #20
DATASET # 0003
PROGRAM VERSION 2.7



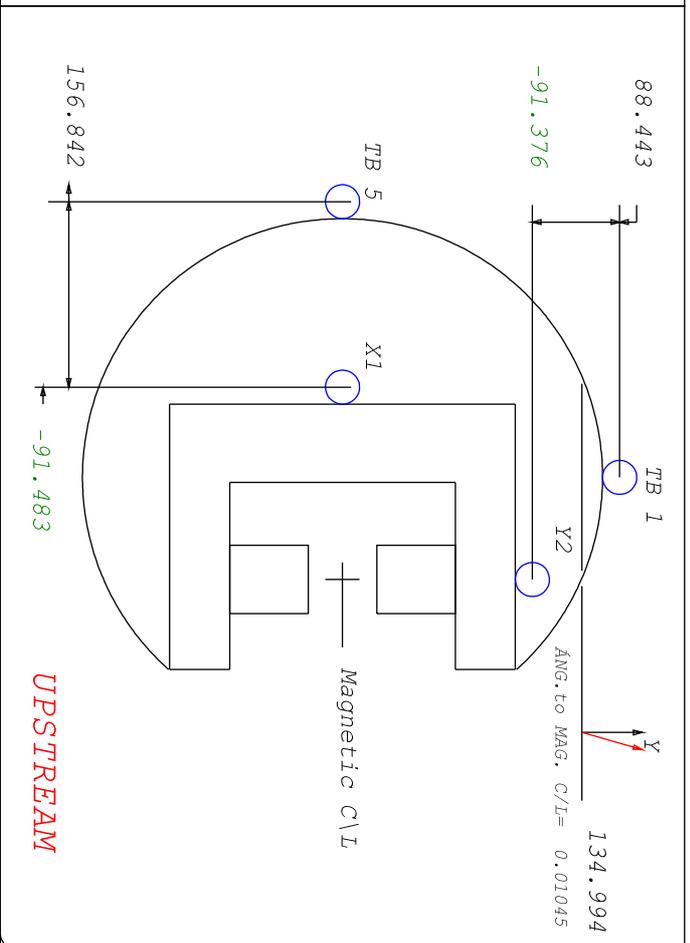
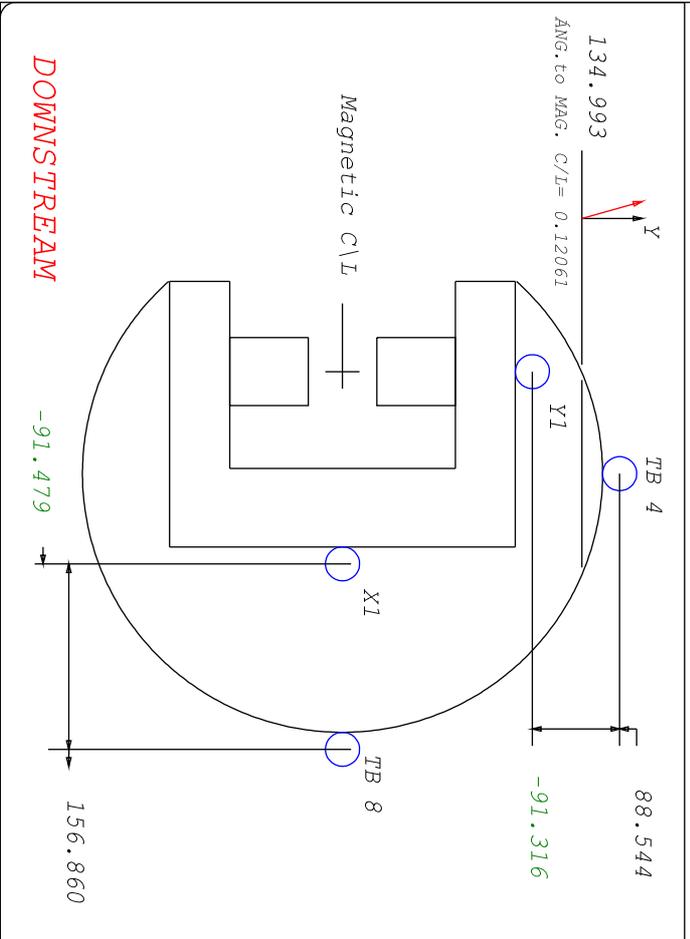
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	-0.0669	179.8186	-1558.364
2	0.1027	179.7259	-584.7316
3	0.1103	179.7444	591.2179
4	0.2098	179.8598	1562.1347
5	248.3248	0.0957	1558.284
6	248.3558	0.0120	-584.7454
7	248.3307	0.0792	591.4020
8	248.3395	0.0490	1562.2254

	C/L Offset	Length
Top Magnetic Structure	-0.061	3380.916
Bottom Magnetic Structure	0.061	3381.140
Strongback	0.327	3400.020

Dimensions in mm

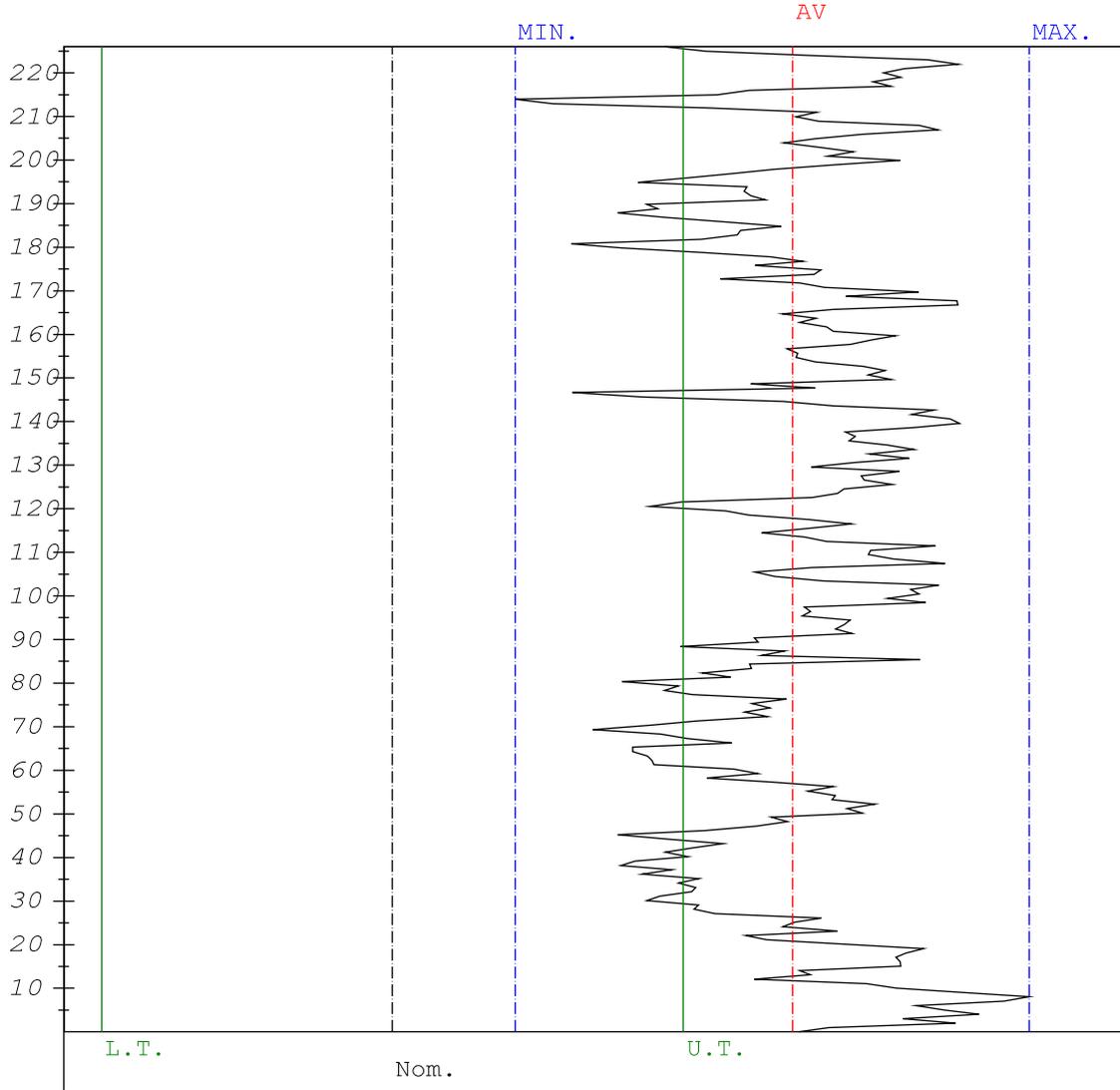
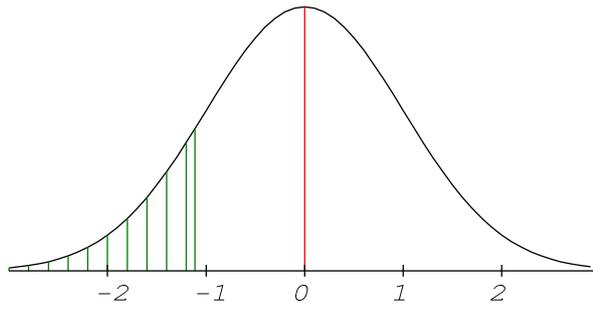
Angles in mrad



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Undulator Dimensional Fiducialization
Post Magnetic Alignment

DATE: 25-APR-2008
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DATASET # 0003
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Nominal : 4.5000	Averag : 5.1885	Cent.-Dev. : 0.6885
Up. Tol. : 0.5	Maximum : 5.5956	U.Tol.Ex. > : 86.8 %
Low.Tol. : -0.5	Minimum : 4.7114	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.1691	In Tolerance: 13.2 %
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: 25-APR-2008 UNDULATOR #20 DATASET # 0003 PROGRAM VERSION 2.7</p>
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