

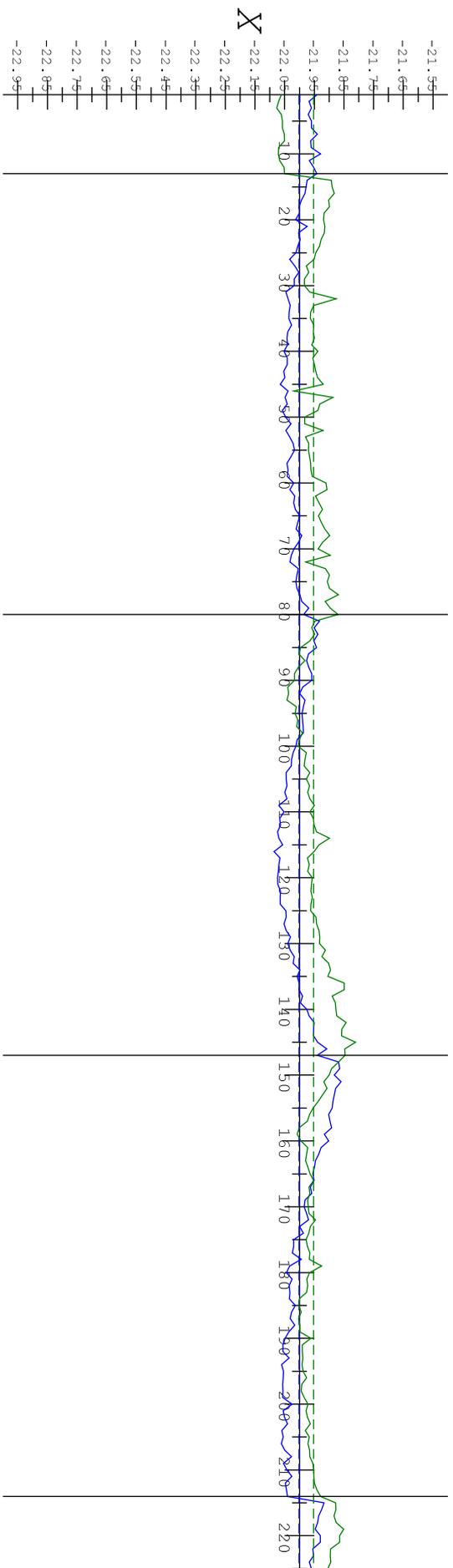
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips  
 Included Angle is the angle between the Upper and Lower Pole Tips

**SLAC**  
 LCLS-MMF  
 LEITZ CMM

Undulator Pole Tip Angles  
 Post Magnetic Alignment

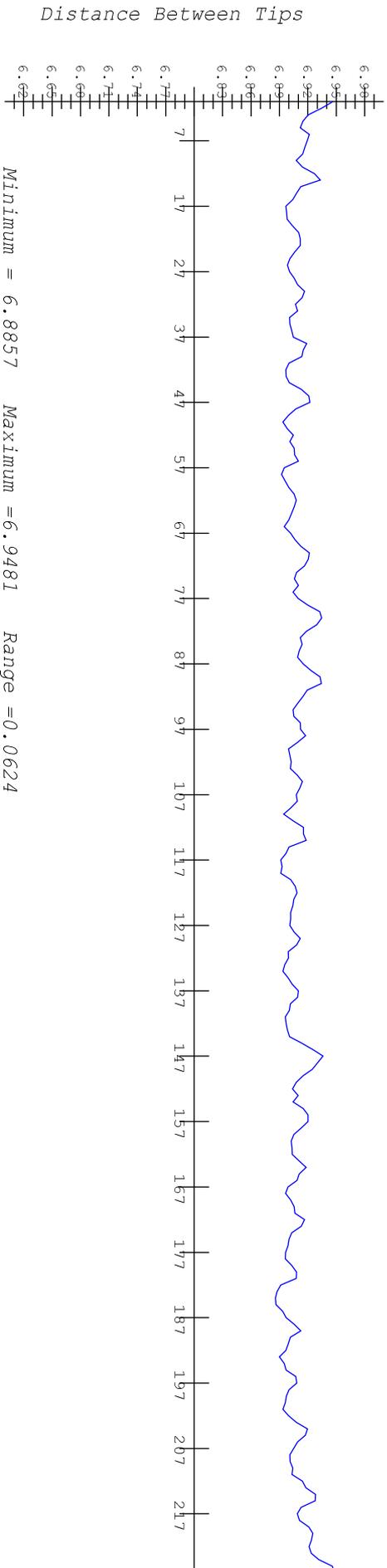
DATE: 19-FEB-2008  
 UNDUULATOR # 22  
 DATASET # 0001  
 PROGRAM VERSION 2.6

# Pole Tip Number ----->



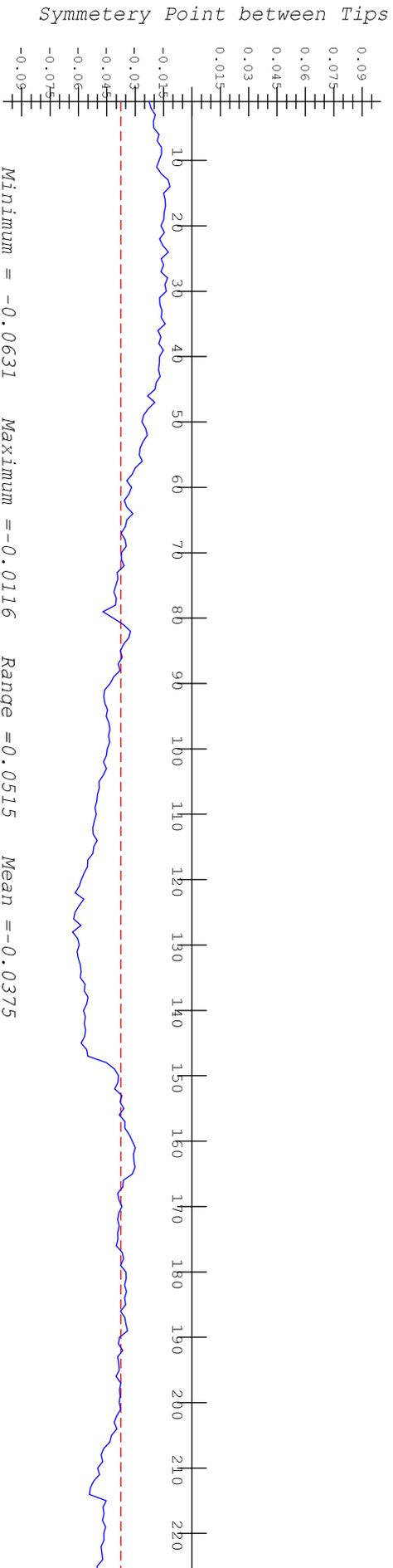
X values in mm  
 Green Solid = Point on front face of Upper Pole Tip 10mm above Magnetic C/L  
 Green Dash = Mean value of all Upper Pole Tips 10mm above Magnetic C/L Mean value Upper Pole Tips = -21.952  
 Blue Solid = Point on front face of Lower Pole Tip 10mm below Magnetic C/L  
 Blue Dash = Mean value of all Lower Pole Tips 10mm below Magnetic C/L Mean value Lower Pole Tips = -22.002

<p><b>SLAC</b>          LCLS-MMF          LEITZ CMM</p>	<p>Undulator Pole Tip Location          Post Magnetic Alignment</p>	<p>DATE: 19-FEB-2008          UNDULATOR # 22          DATASET # 0001          PROGRAM VERSION 2.6</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

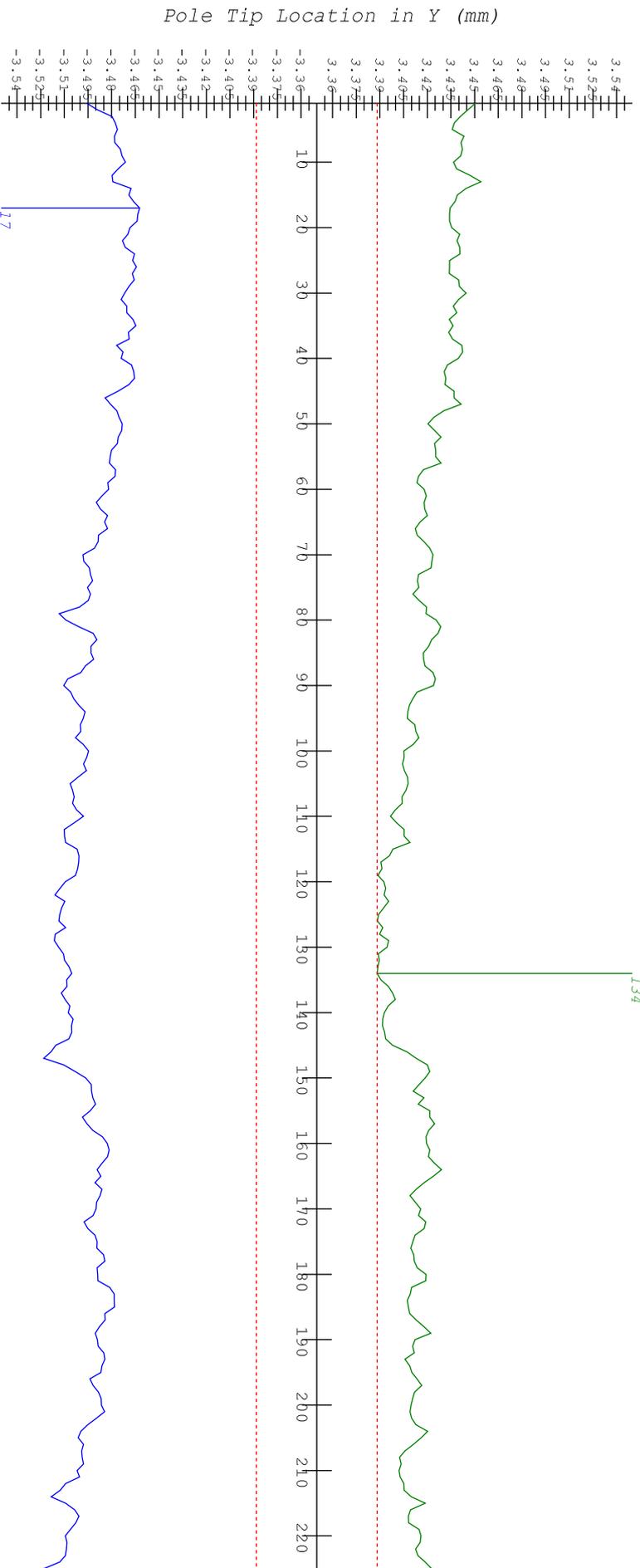
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Undulator Pole Tip Location  
 Post Magnetic Alignment

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Maximum Chamber Gap = 6.7765

Minimum = 3.3883    Maximum = 3.4540    Range = 0.0657



Minimum = -3.5240    Maximum = -3.4623    Range = 0.0617

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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LCLS-MMF  
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Undulator Pole Tip Location  
Post Magnetic Alignment

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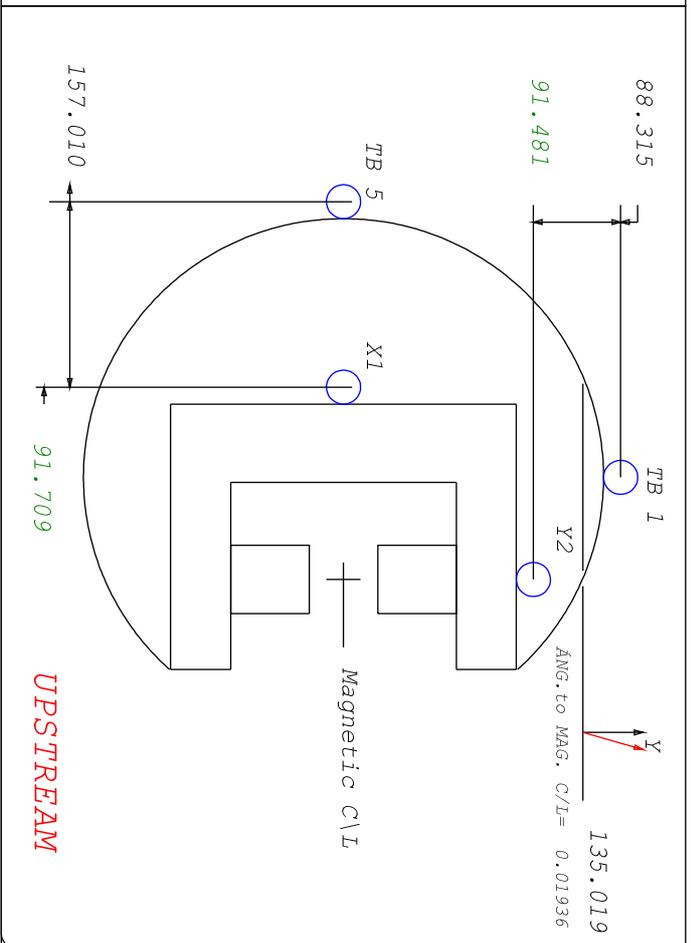
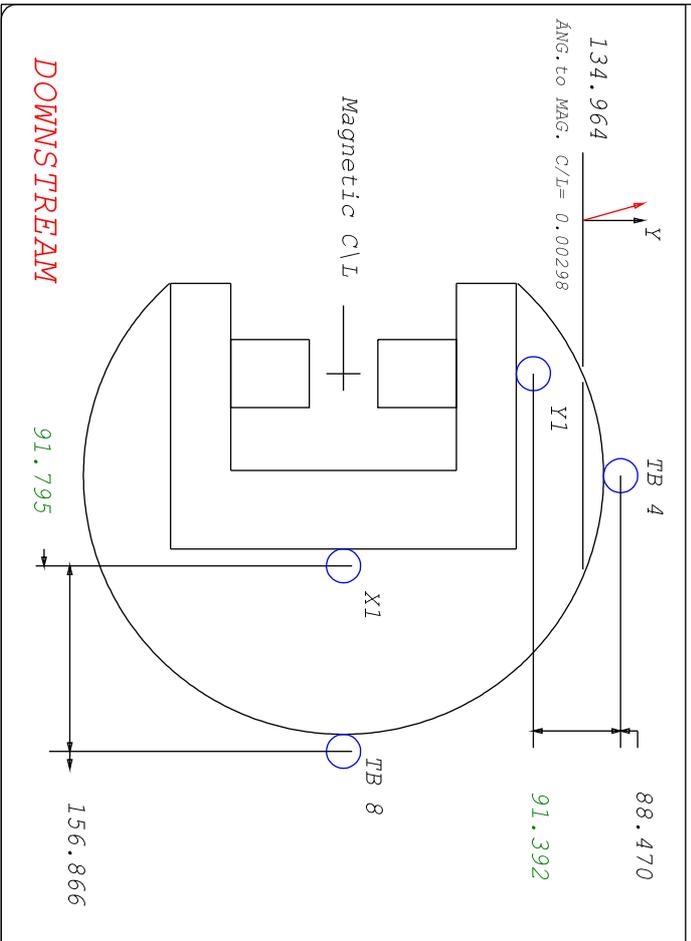
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.2823	179.7958	-1558.277
2	0.3195	179.7297	-584.6792
3	0.4464	179.7557	591.3034
4	0.4152	179.8622	1562.1207
5	248.7188	-0.0131	-1558.316
6	248.7249	-0.0314	-584.7231
7	248.7867	-0.0479	591.2938
8	248.6607	-0.0494	1562.1346

	C/L Offset	Length
Top Magnetic Structure	0.041	3380.990
Bottom Magnetic Structure	-0.041	3380.936
Strongback	0.271	3400.005

Dimensions in mm

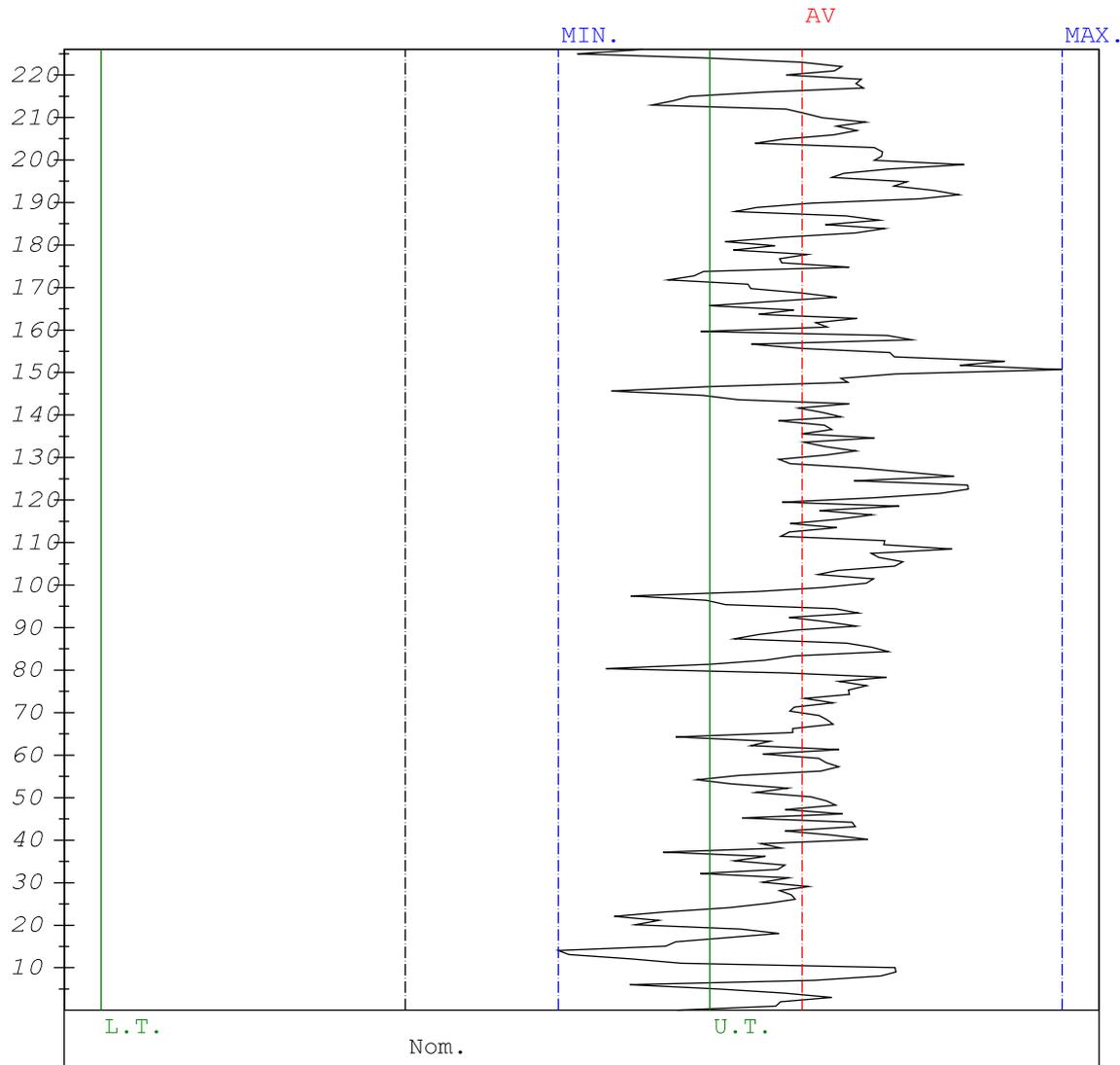
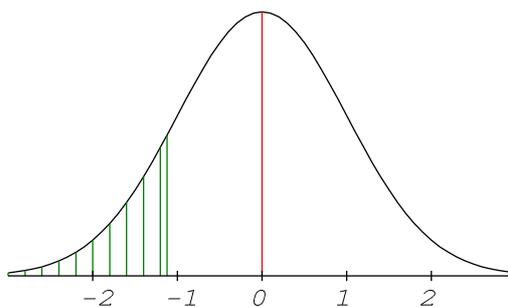
Angles in mrad



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Undulator Dimensional Fiducialization  
Post Magnetic Alignment

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Nominal : 4.5000	Averag : 5.1515	Cent.-Dev. : 0.6515
Up. Tol. : 0.5	Maximum : 5.5784	U.Tol.Ex. > : 86.9 %
Low.Tol. : -0.5	Minimum : 4.7510	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.1352	In Tolerance: 13.1 %
Outlier : 0	Distribution : NOR	Dimension : mrad

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Statistical Evaluation  
Pole Tip Gap Angle  
Post Magnetic Alignment

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DATASET # 0001  
PROGRAM VERSION 2.6