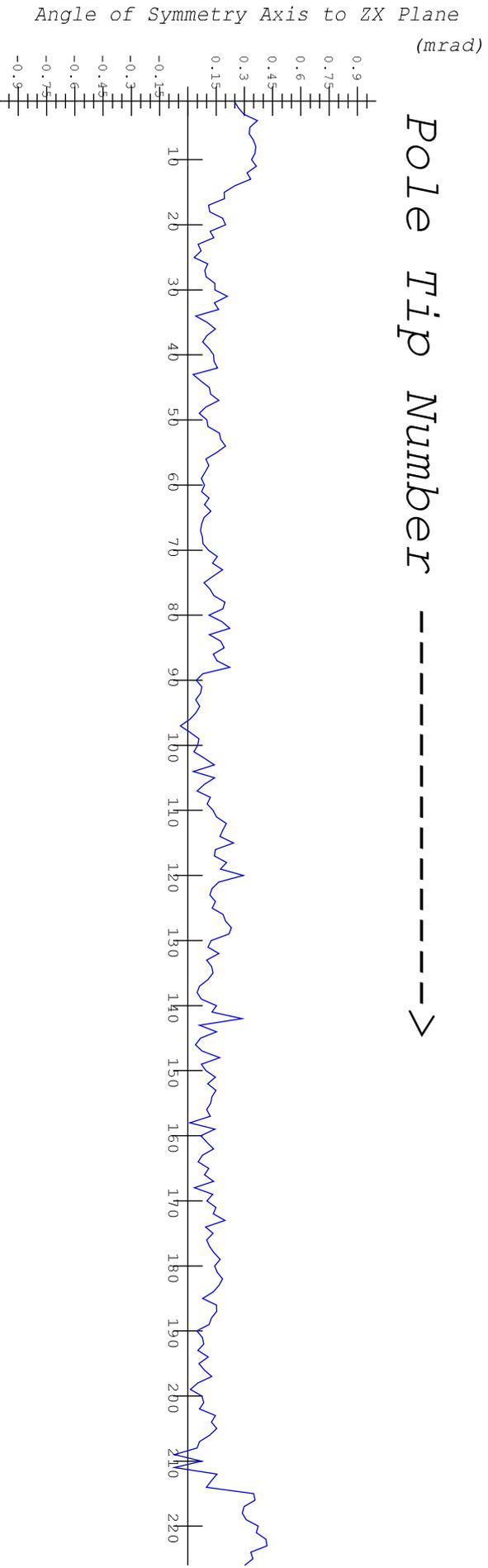


Pole Tip Number ----->



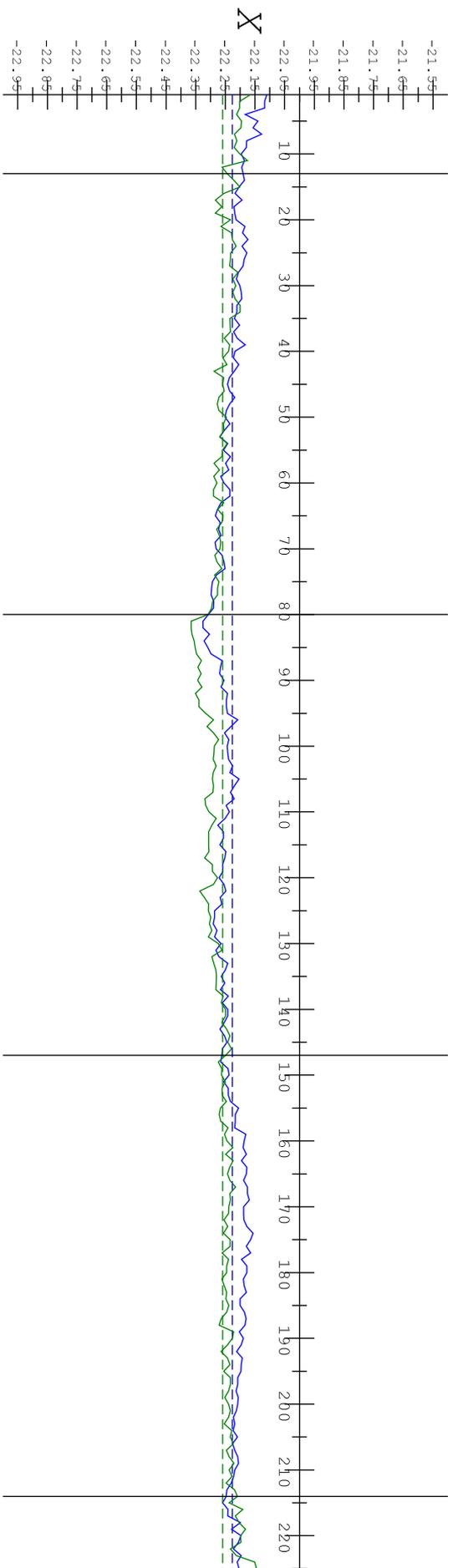
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips  
 Included Angle is the angle between the Upper and Lower Pole Tips

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Undulator Pole Tip Angles  
 Post Magnetic Alignment

DATE: 14-NOV-2008  
 UNDUULATOR # 15  
 DATASET # 0002  
 PROGRAM VERSION 2.7

# 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 = -22.259

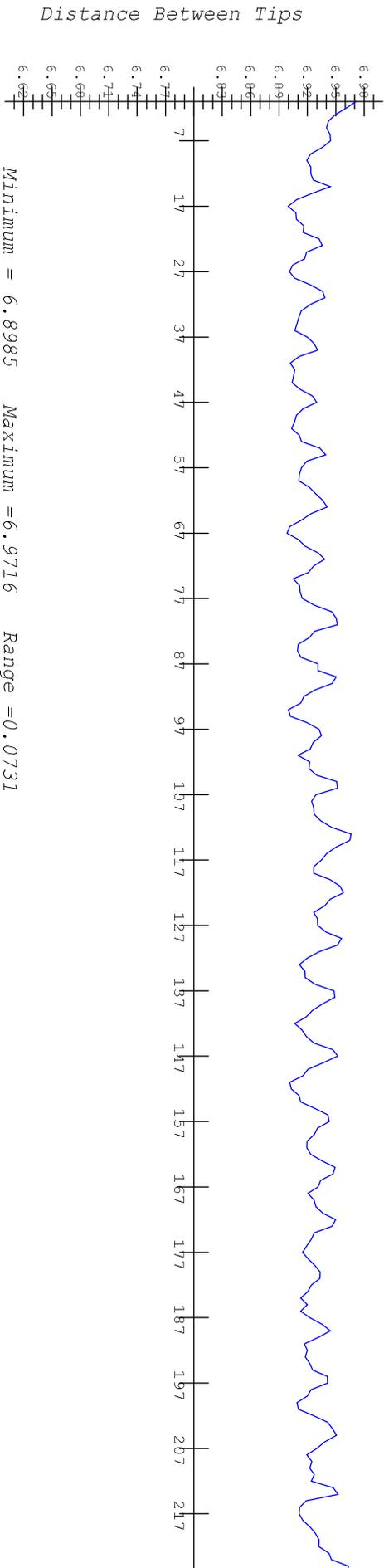
Blue Solid = Point on front face of Lower Pole Tip 10mm below Magnetic C/L

Blue Dash = Mean value of all Lower Pole Tips 10mm below Magnetic C/L Mean value Lower Pole Tips = -22.227

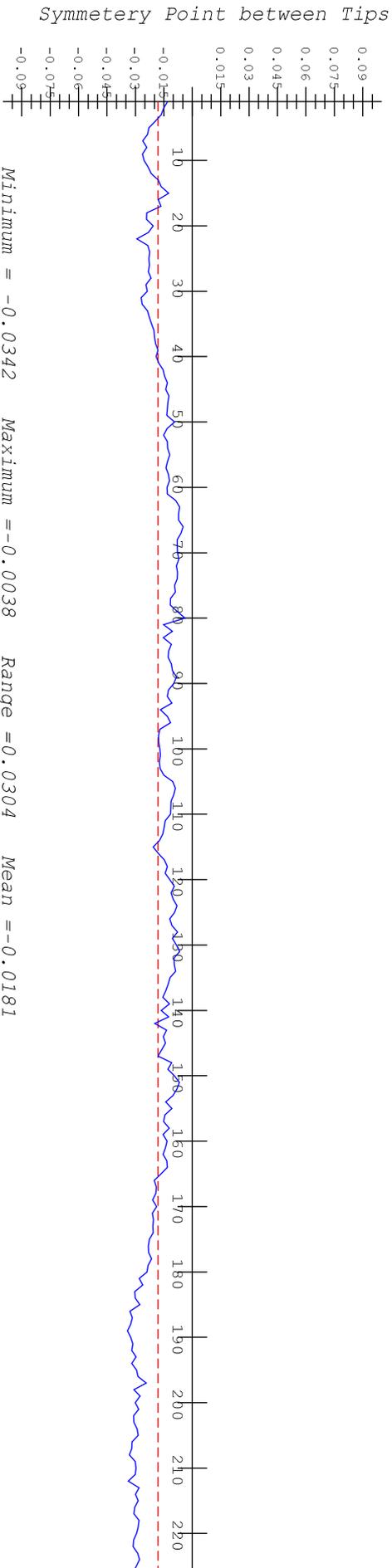
**SLAC**  
 LCLS-MMF  
 LEITZ CMM

Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 14-NOV-2008  
 UNDULATOR # 15  
 DATASET # 0002  
 PROGRAM VERSION 2.7



# 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

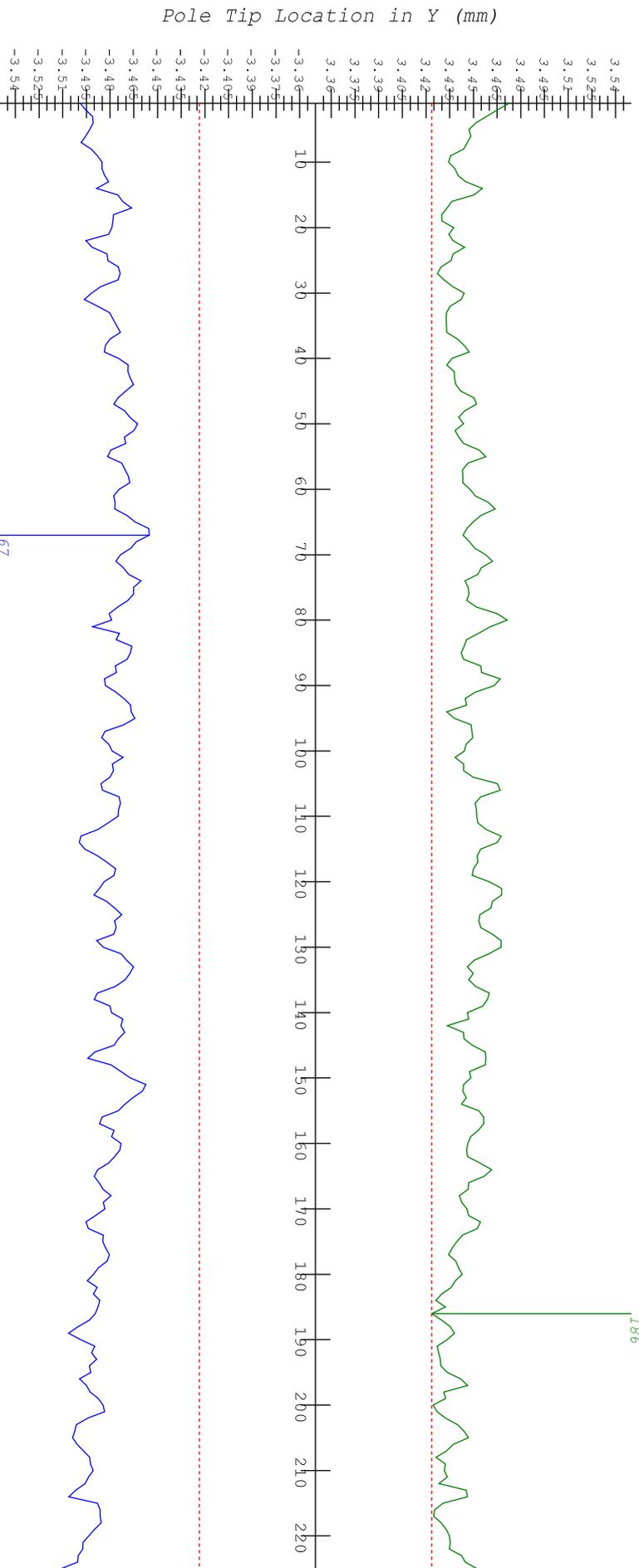
**SLAC**  
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 LEITZ CMM

Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 14-NOV-2008  
 UNDUULATOR # 15  
 DATASET # 0002  
 PROGRAM VERSION 2.7

Maximum Chamber Gap = 6.8471

Minimum = 3.4235    Maximum = 3.4728    Range = 0.0492



Minimum = -3.5124    Maximum = -3.4552    Range = 0.0573

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: 14-NOV-2008  
UNDULATOR # 15  
DATASET # 0002  
PROGRAM VERSION 2.7



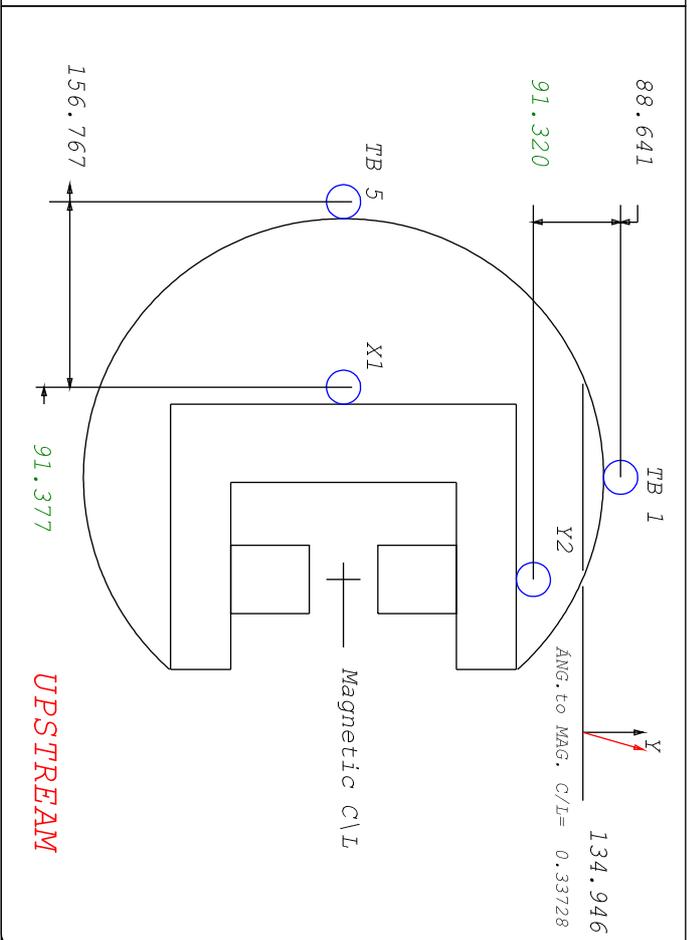
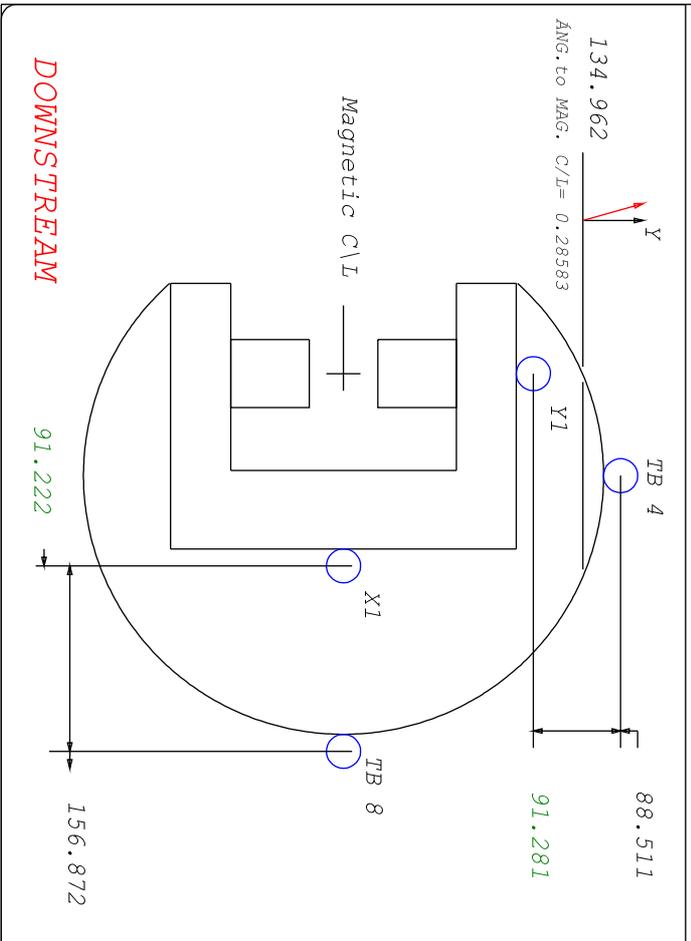
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	-0.3007	179.9610	-1558.239
2	-0.4230	179.9358	-584.5829
3	-0.4387	179.8382	591.4160
4	-0.1133	179.7916	1562.1994
5	248.1438	0.0957	-1558.100
6	248.0304	0.0305	-584.5473
7	248.1403	0.0127	591.4647
8	248.0939	-0.1227	1562.2897

	C/L Offset	Length
Top Magnetic Structure	-0.023	3380.953
Bottom Magnetic Structure	0.023	3381.053
Strongback	0.472	3400.012

Dimensions in mm

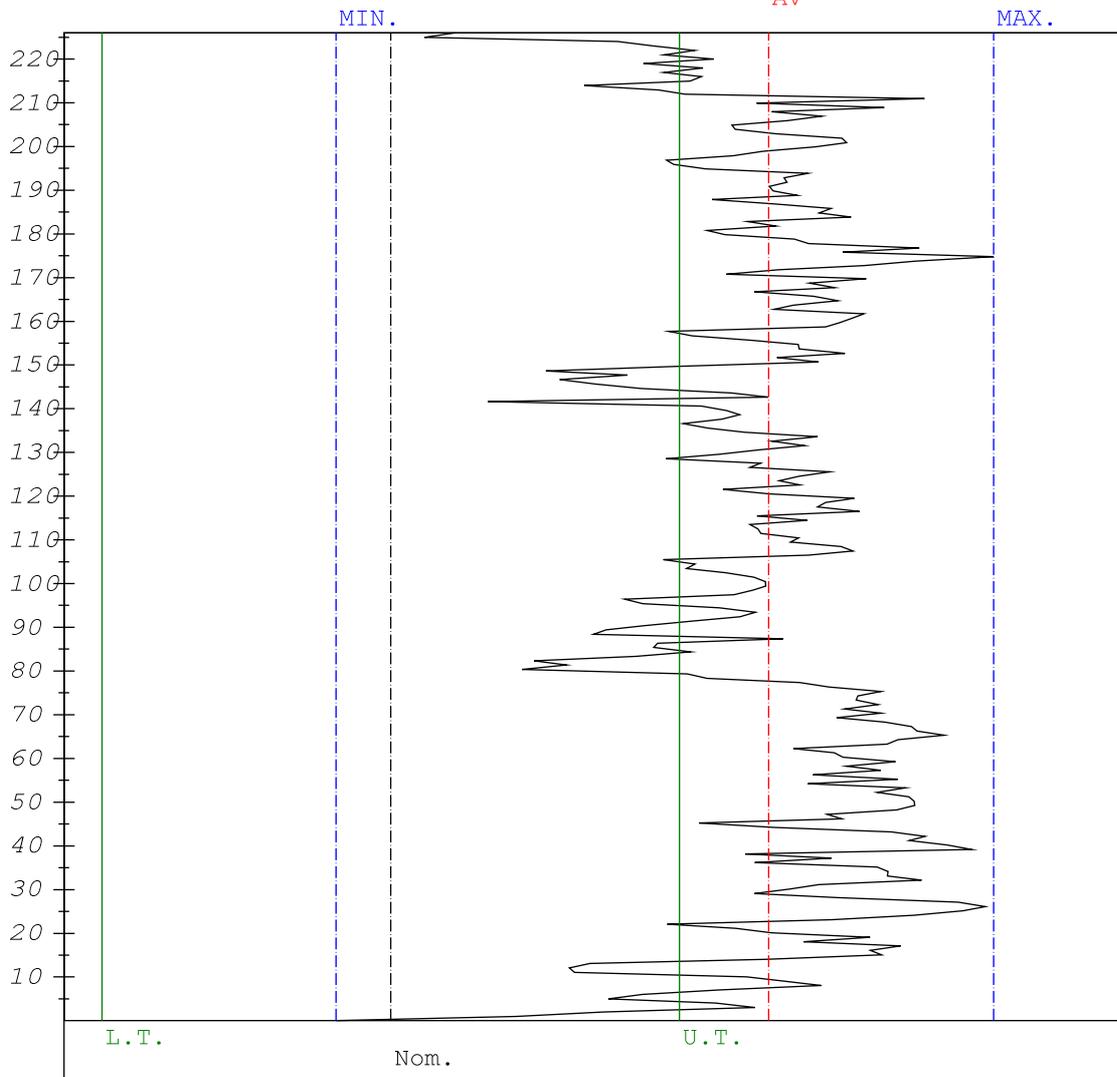
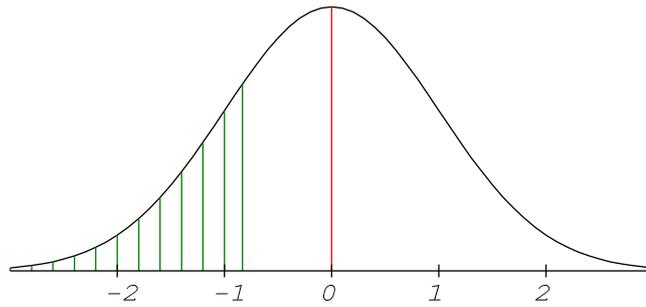
Angles in mrad



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Undulator Dimensional Fiducialization  
Post Magnetic Alignment

DATE: 14-NOV-2008  
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DATASET # 0002  
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Nominal : 4.5000	Averag : 5.1544	Cent.-Dev. : 0.6544
Up. Tol. : 0.5	Maximum : 5.5436	U.Tol.Ex. > : 79.7 %
Low.Tol. : -0.5	Minimum : 4.4052	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.1856	In Tolerance: 20.3 %
Outlier : 0	Distribution : NOR	Dimension : mrad

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 LEITZ CMM

Statistical Evaluation  
 Pole Tip Gap Angle  
 Post Magnetic Alignment

DATE:14-NOV-2008  
 UNDULATOR # 15  
 DATASET # 0002  
 PROGRAM VERSION 2.7