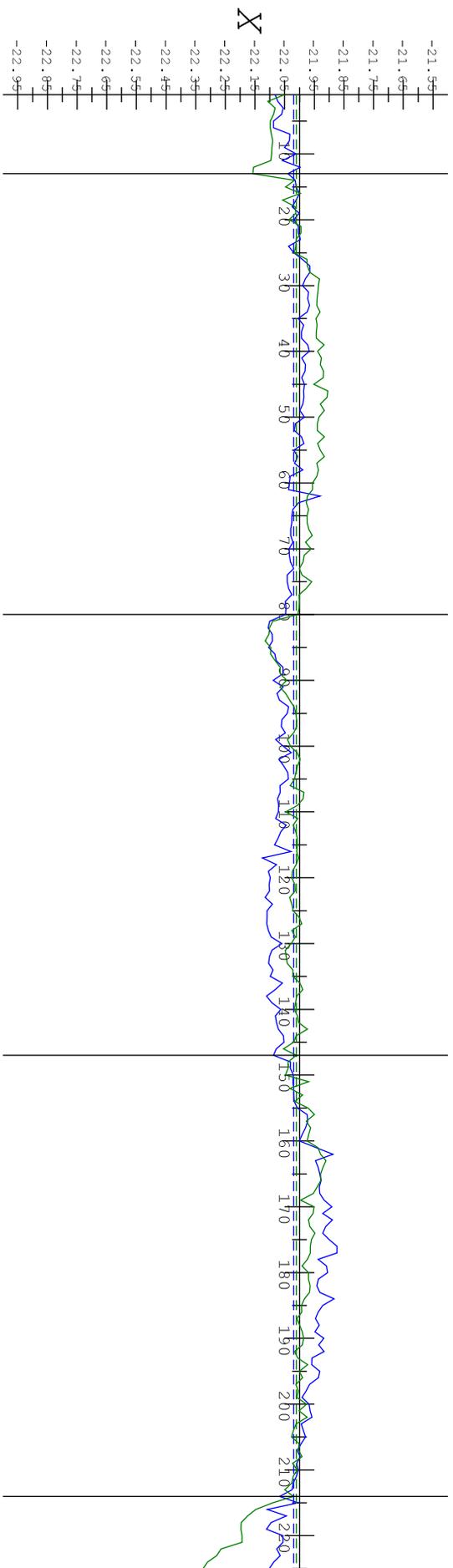


Pole Tip Number ----->

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><b>SLAC</b>          LCLS-MMF          LEITZ CMM</p>	<p>Undulator Pole Tip Angles          Post Magnetic Alignment</p>	<p>DATE: 07-APR-2008          UNDULATOR # 13          DATASET # 0008          PROGRAM VERSION 2.6</p>
---	---	---

# Pole Tip Number ----->

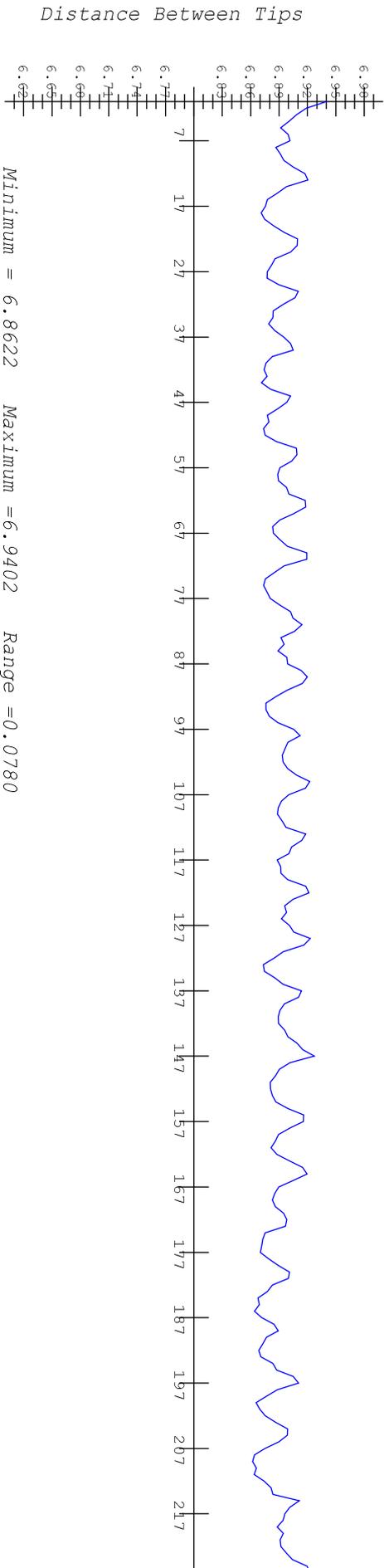


X values in mm  
 Green Solid = Point on front face of Upper Pole Tip 10mm above Magnetic C/L  
 Green Dash = Mean value of all Upper Pole Tips 10mm above Magnetic C/L Mean value Upper Pole Tips = -22.011  
 Blue Solid = Point on front face of Lower Pole Tip 10mm below Magnetic C/L  
 Blue Dash = Mean value of all Lower Pole Tips 10mm below Magnetic C/L Mean value Lower Pole Tips = -22.019

**SLAC**  
 LCLS-MMF  
 LEITZ CMM

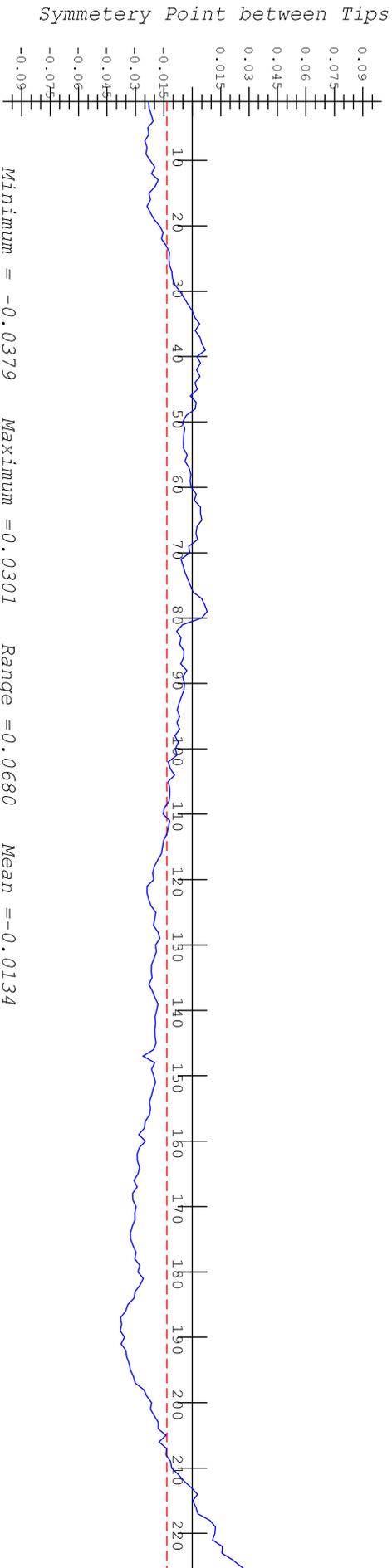
Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 07-APR-2008  
 UNDULATOR # 13  
 DATASET # 0008  
 PROGRAM VERSION 2.6



in mm

Pole Tip Number ----->

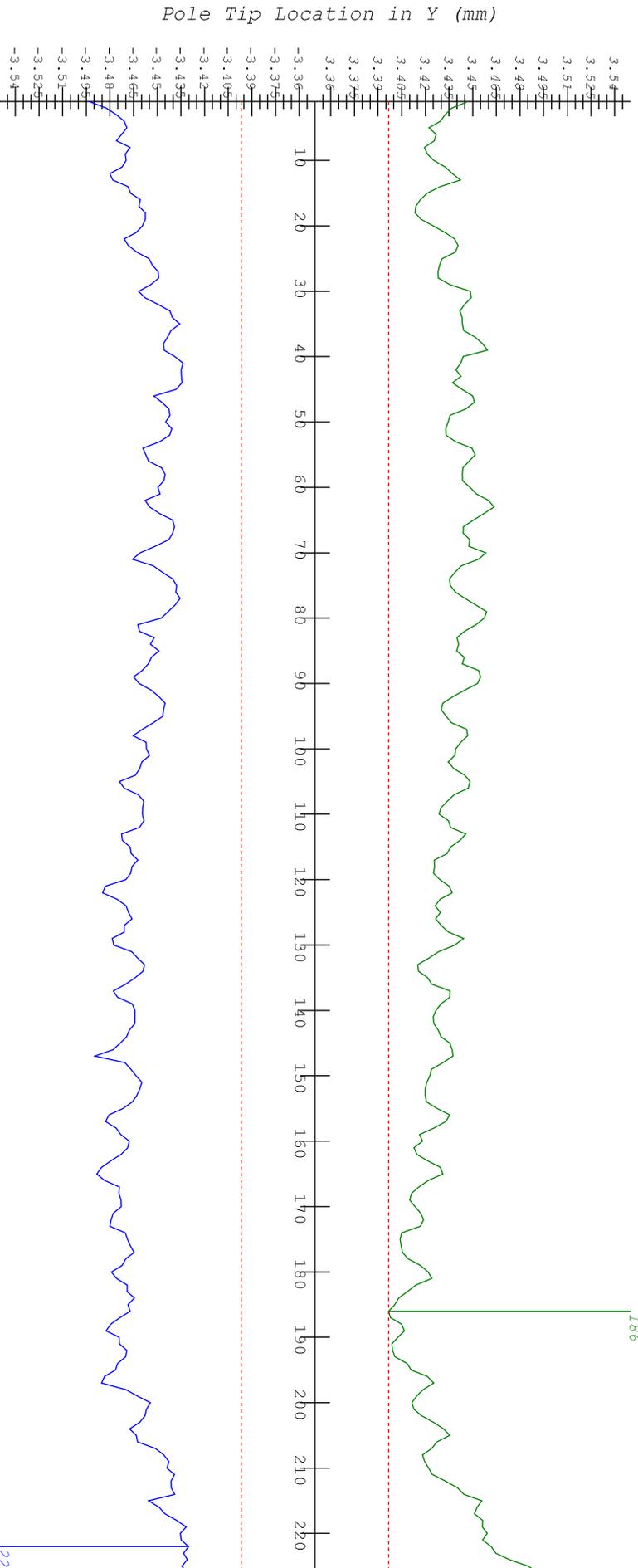


Symmetry Point is the symmetry point between the Upper and Lower Pole Tips were they intersect a YZ plane at the Magnetic C/L  
 Broken Red line is Mean Value of Symmetry Points  
 Distance Between Tips is the distance between the Upper and Lower Pole Tips were they intersect a YZ plane at the Magnetic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

<p>SLAC LCLS-MMF LEITZ CMM</p>	<p>Undulator Pole Tip Location Post Magnetic Alignment</p>	<p>DATE: 07-APR-2008 UNDULATOR # 13 DATASET # 0008 PROGRAM VERSION 2.6</p>
--	--	--

Maximum Chamber Gap = 6.7935

Minimum = 3.3968 Maximum = 3.4914 Range = 0.0947



Minimum = -3.4932 Maximum = -3.4301 Range = 0.0631

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)

**SLAC**  
LCLS-MMF  
LEITZ CMM

Undulator Pole Tip Location  
Post Magnetic Alignment

DATE: 07-APR-2008  
UNDULATOR # 13  
DATASET # 0008  
PROGRAM VERSION 2.6



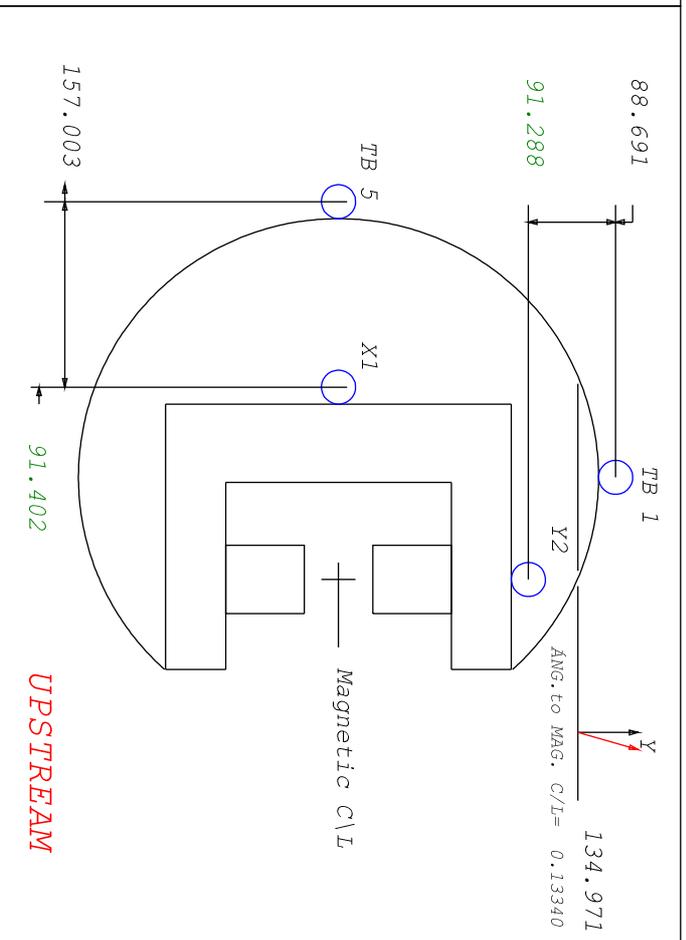
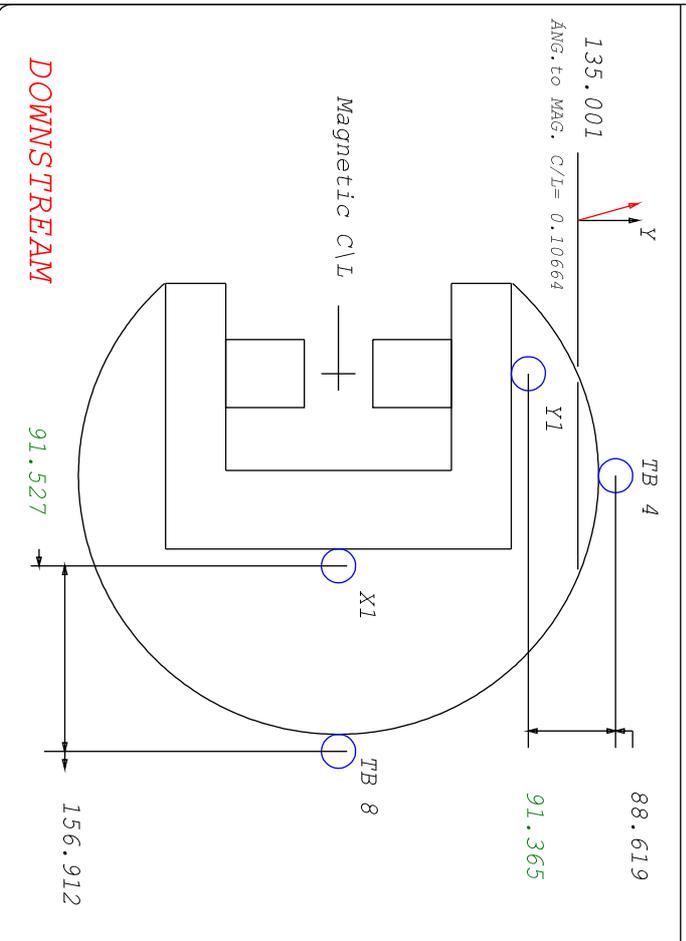
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.0818	179.9793	-1558.284
2	0.2246	180.0038	-584.4526
3	0.1226	179.8914	591.3052
4	0.0876	179.9842	1562.0771
5	248.4052	0.0728	-1558.297
6	248.3666	-0.0377	-584.5983
7	248.3880	0.0322	591.3273
8	248.4395	-0.0790	1562.0854

	C/L Offset	Length
Top Magnetic Structure	-0.096	3381.062
Bottom Magnetic Structure	0.096	3381.285
Strongback	0.253	3399.787

Dimensions in mm

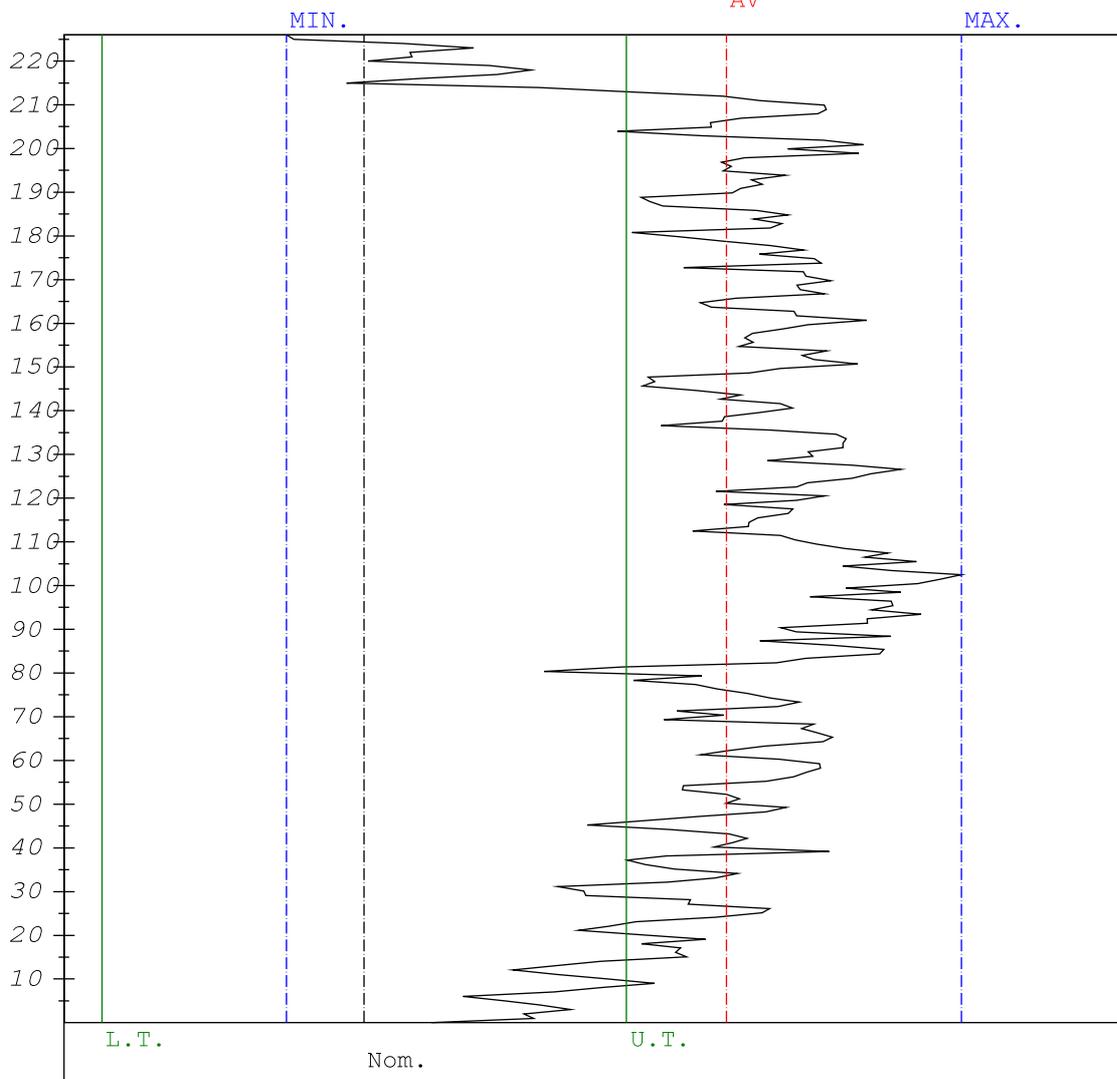
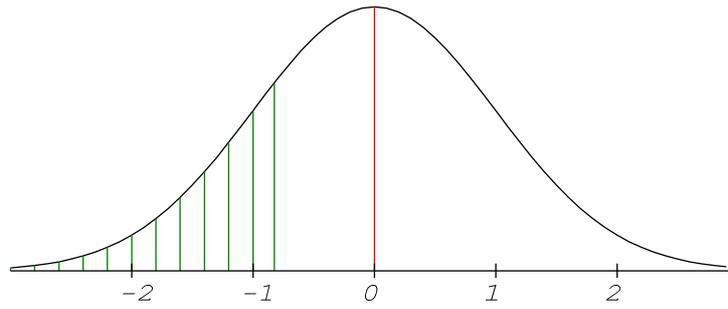
Angles in mrad



**SLAC**  
LCLS-MMF  
LEITZ CMM

Undulator Dimensional Fiducialization  
Post Magnetic Alignment

DATE: 07-APR-2008  
UNDULATOR # 13  
DATASET # 0008  
PROGRAM VERSION 2.6



Nominal : 4.5000	Averag : 5.191	Cent.-Dev. : 0.691
Up. Tol. : 0.5	Maximum : 5.6391	U.Tol.Ex. > : 79.5 %
Low.Tol. : -0.5	Minimum : 4.3518	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2314	In Tolerance: 20.5 %
Outlier : 0	Distribution : NOR	Dimension : mrad

**SLAC**  
LCLS-MMF  
LEITZ CMM

Statistical Evaluation  
Pole Tip Gap Angle  
Post Magnetic Alignment

DATE: 07-APR-2008

UNDULATOR # 13  
DATASET # 0008

PROGRAM VERSION 2.6