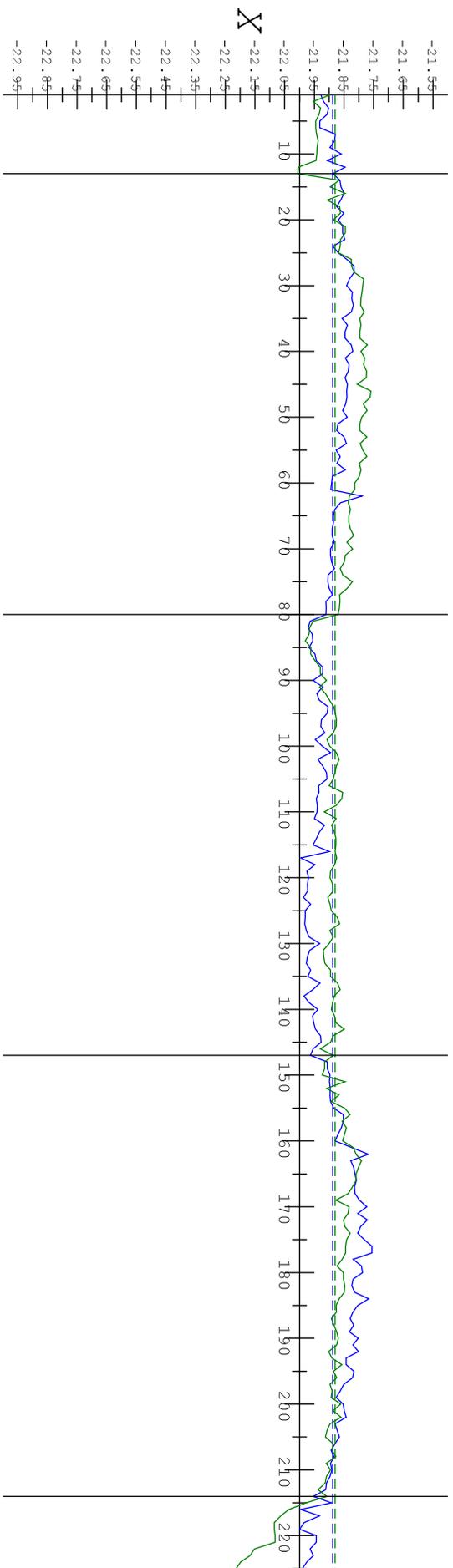


Pole Tip Number ----->

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: 23-SEP-2008          UNDULATOR # 13          DATASET # 0012          PROGRAM VERSION 2.7</p>
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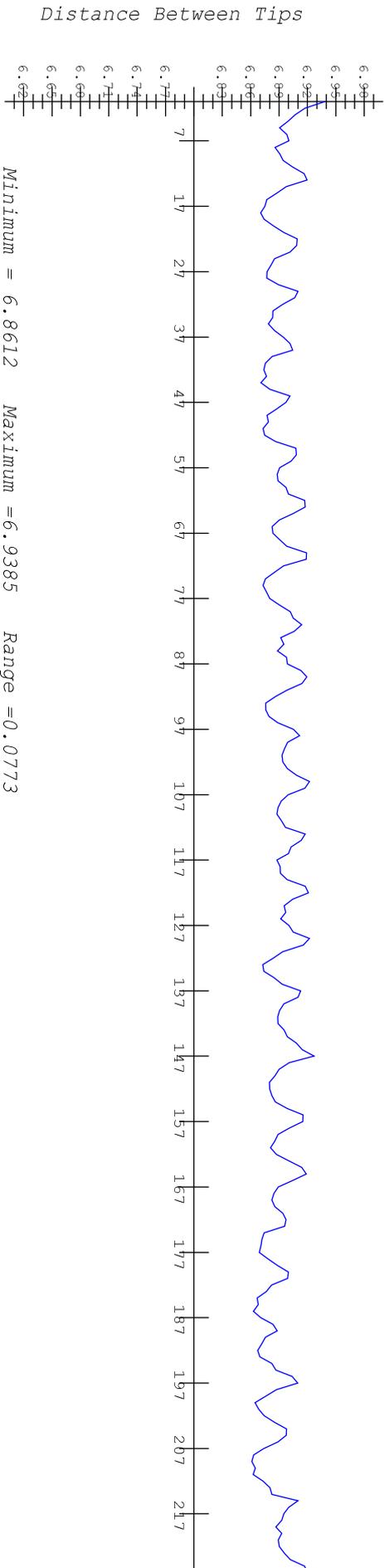
# Pole Tip Number ----->



**SLAC**  
 LCLS-MMF  
 LEITZ CMM

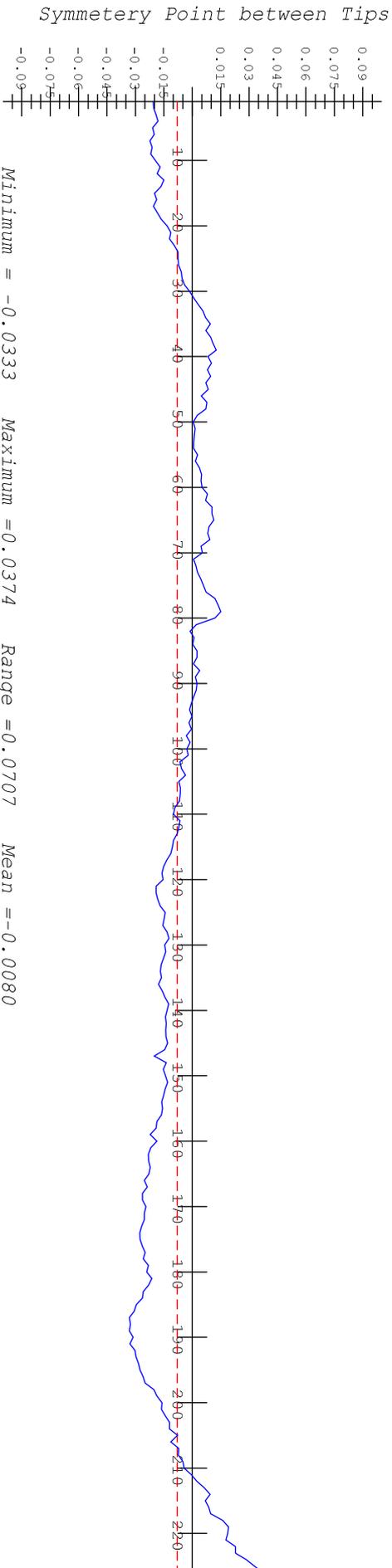
Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 23-SEP-2008  
 UNDULATOR # 13  
 DATASET # 0012  
 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

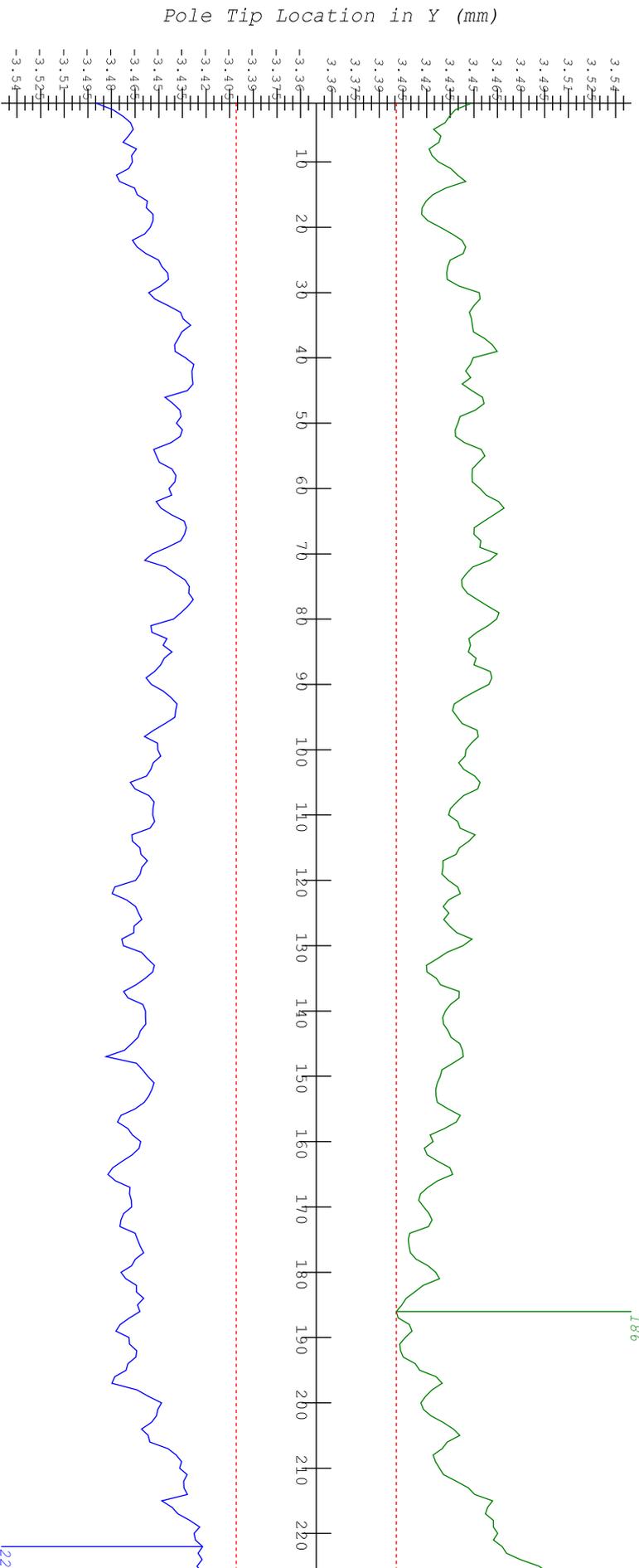
**SLAC**  
 LCLS-MMF  
 LEITZ CMM

Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 23-SEP-2008  
 UNDUULATOR # 13  
 DATASET # 0012  
 PROGRAM VERSION 2.7

Maximum Chamber Gap = 6.8016

Minimum = 3.4008    Maximum = 3.4974    Range = 0.0966



Minimum = -3.4898    Maximum = -3.4222    Range = 0.0676

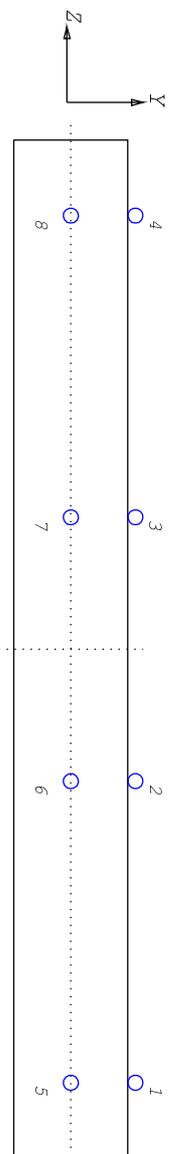
Pole Tip Number ----->

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: 23-SEP-2008  
UNDULATOR # 13  
DATASET # 0012  
PROGRAM VERSION 2.7



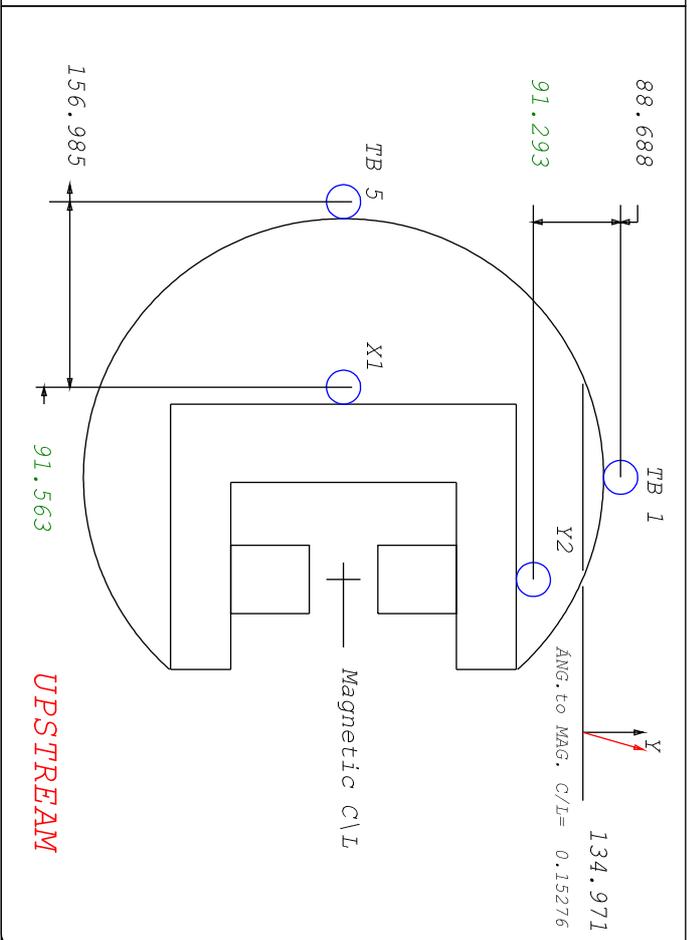
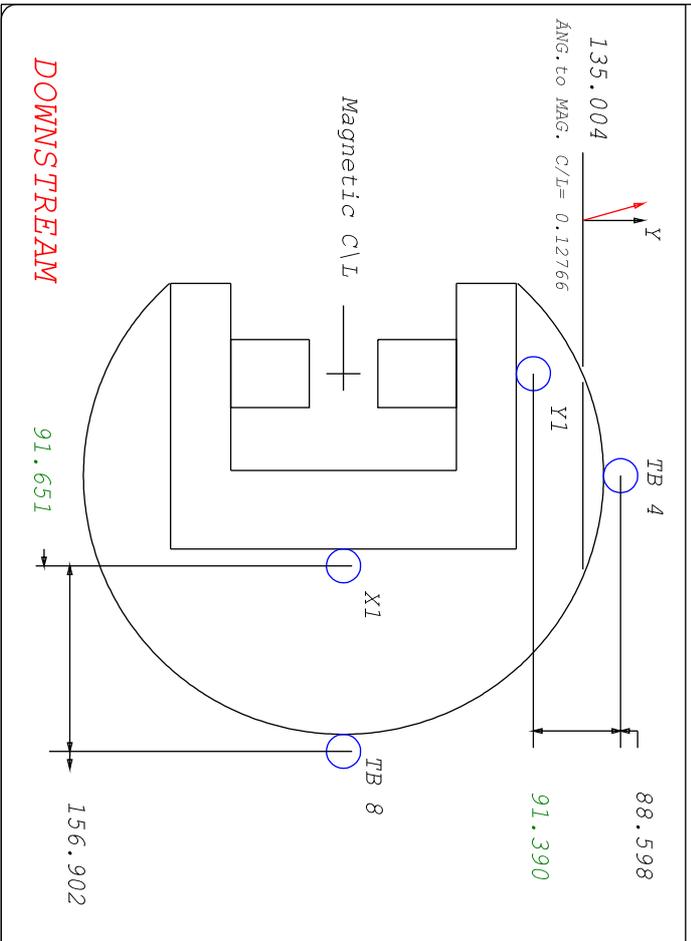
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.2198	179.9811	-1558.286
2	0.3520	180.0078	-584.4537
3	0.2402	179.8945	591.3040
4	0.1950	179.9881	1562.0749
5	248.5480	0.0763	-1558.306
6	248.4993	-0.0301	-584.5942
7	248.5102	0.0385	591.3283
8	248.5533	-0.0706	1562.0865

Top Magnetic Structure      C/L Offset      Length      3381.061  
 Bottom Magnetic Structure      0.096      3381.285  
 Strongback      0.252      3399.784

Dimensions in mm

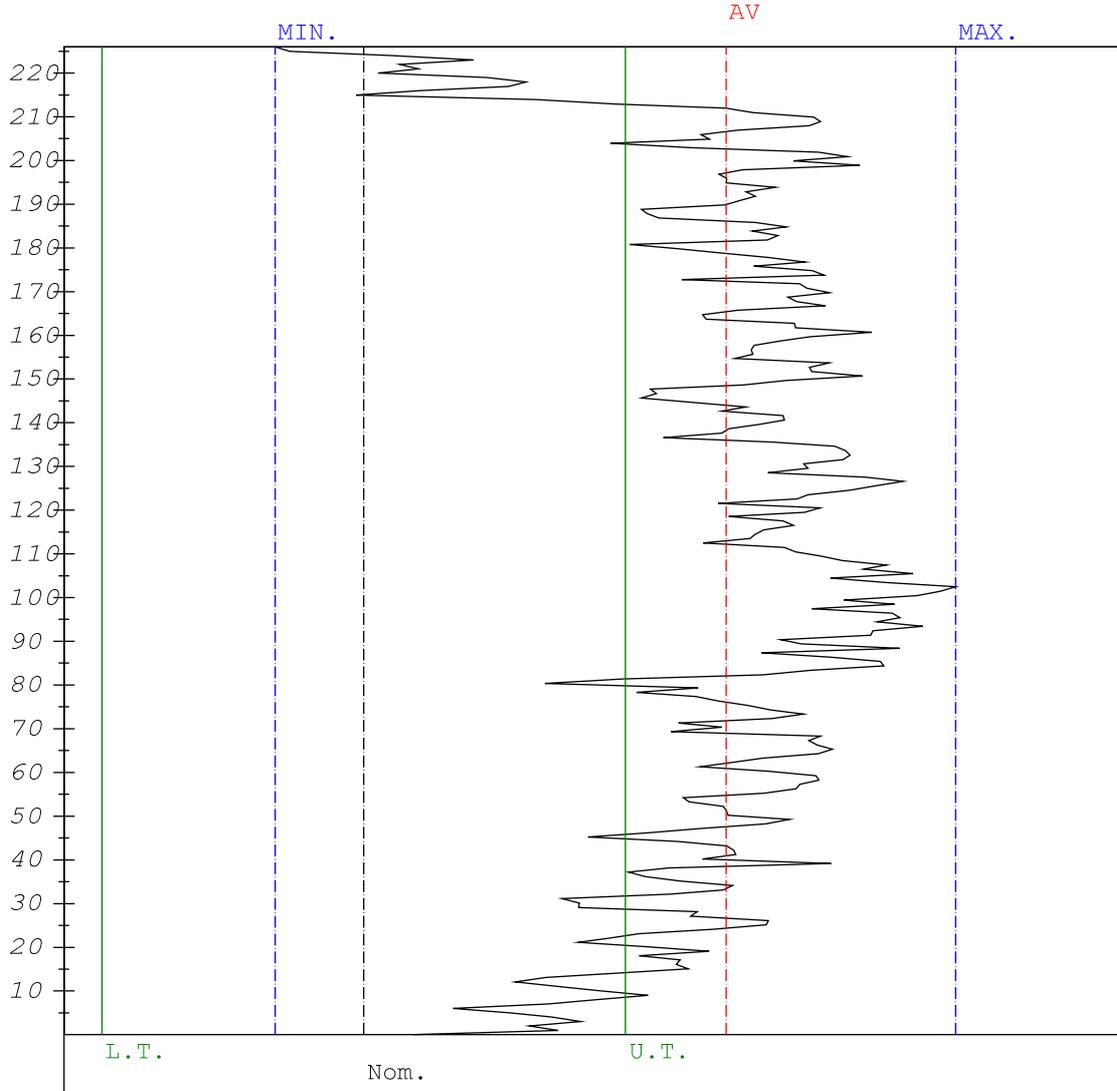
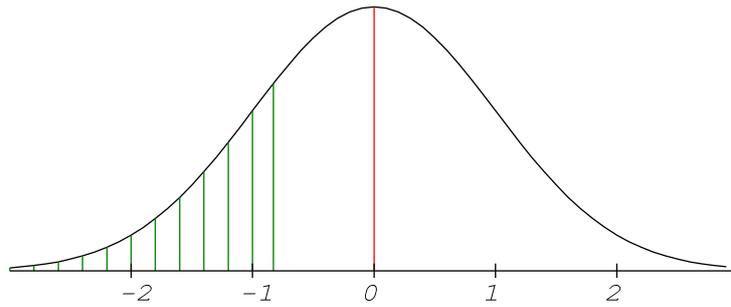
Angles in mrad



**SLAC**  
 LCLS-MMF  
 LEITZ CMM

Undulator Dimensional Fiducialization  
 Post Magnetic Alignment

DATE: 23-SEP-2008  
 UNDUATOR # 13  
 DATASET # 0012  
 PROGRAM VERSION 2.7



Nominal : 4.5000	Averag : 5.1924	Cent.-Dev. : 0.6924
Up. Tol. : 0.5	Maximum : 5.6307	U.Tol.Ex. > : 79.6 %
Low.Tol. : -0.5	Minimum : 4.3308	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2320	In Tolerance: 20.4 %
Outlier : 0	Distribution : NOR	Dimension : mrad

**SLAC**  
LCLS-MMF  
LEITZ CMM

Statistical Evaluation  
Pole Tip Gap Angle  
Post Magnetic Alignment

DATE: 23-SEP-2008

UNDULATOR # 13  
DATASET # 0012

PROGRAM VERSION 2.7