

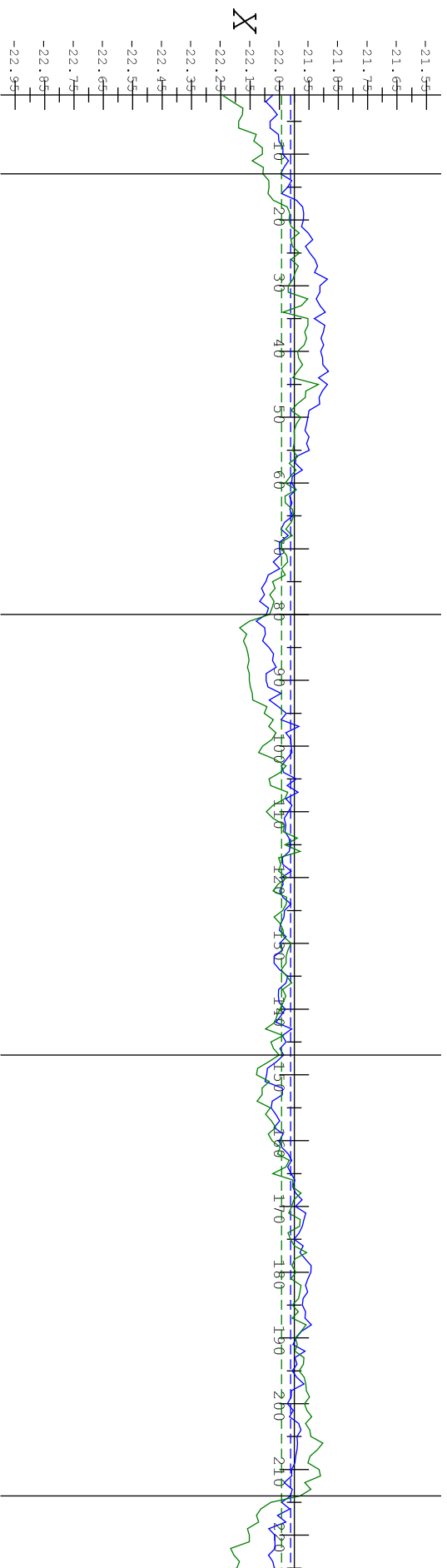
*Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips  
Included Angle is the angle between the Upper and Lower Pole Tips*

**SLAC**  
LCLS-MMF  
LEITZ CMM

*Undulator Pole Tip Angles  
Post Magnetic Alignment*

DATE: 13-APR-2007  
UNDULATOR # 03  
VERSION 1.6

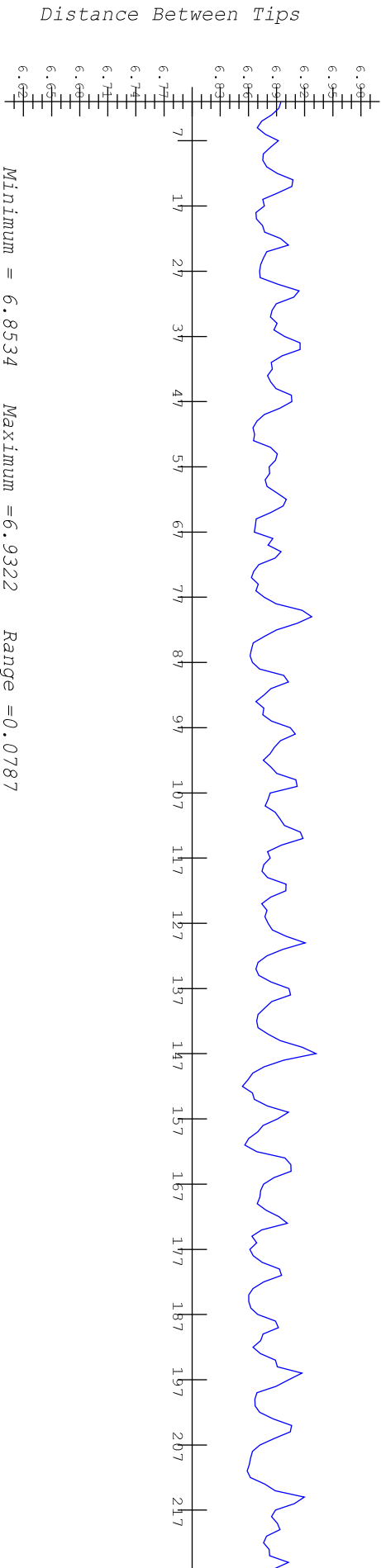
# Pole Tip Number ----->



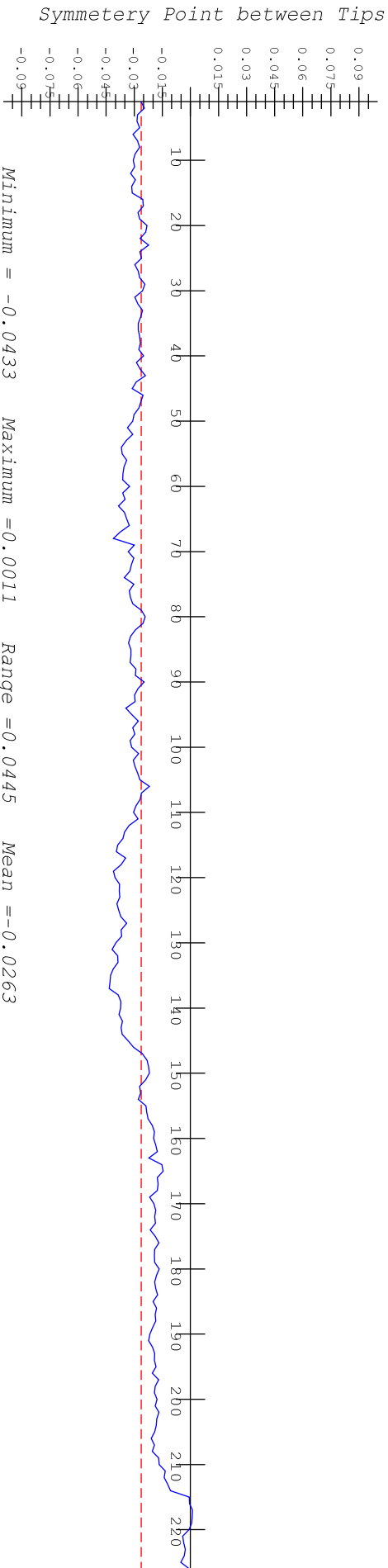
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Undulator Pole Tip Location  
 Post Magnetic Alignment

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# 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

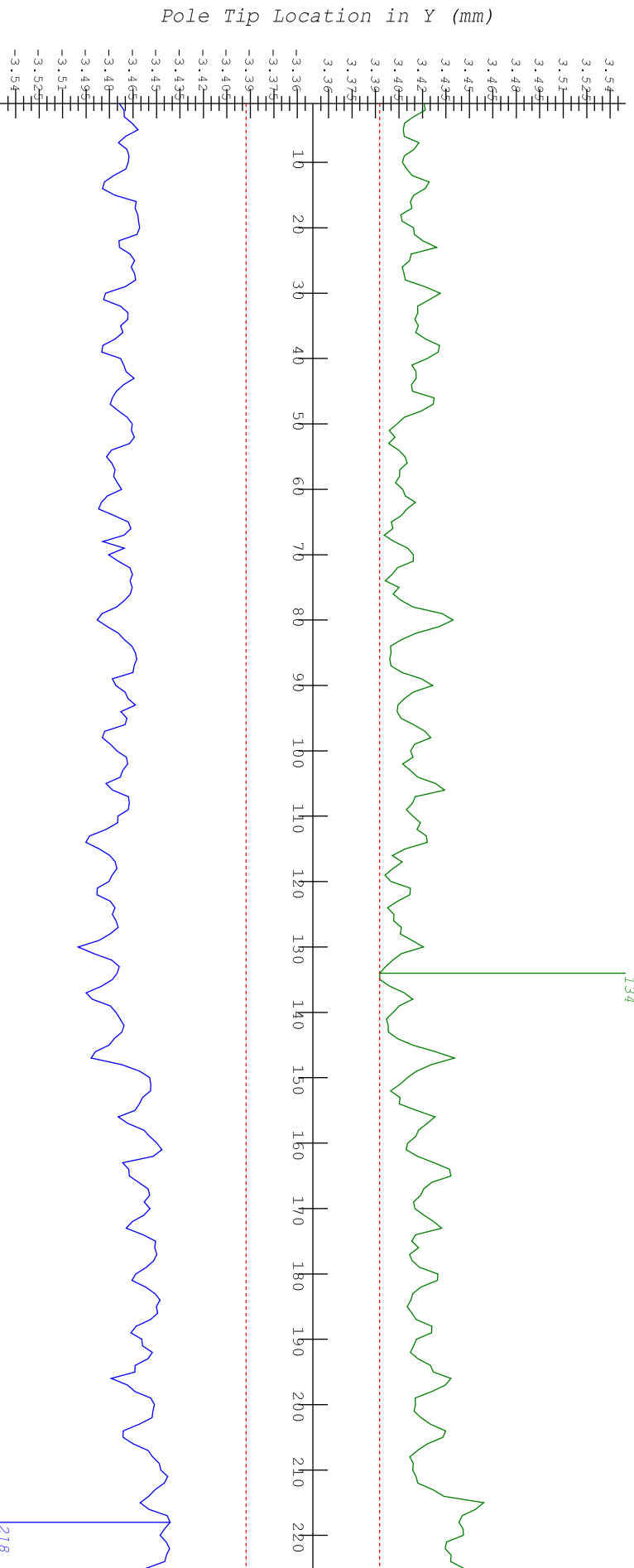
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Undulator Pole Tip Location  
 Post Magnetic Alignment

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Maximum Chamber Gap = 6.7853

Minimum = 3.3926    Maximum = 3.4591    Range = 0.0665



Minimum = -3.5001    Maximum = -3.4412    Range = 0.0588

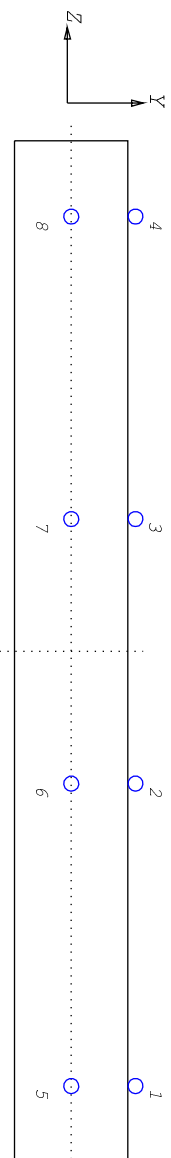
Pole Tip Number ----->

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

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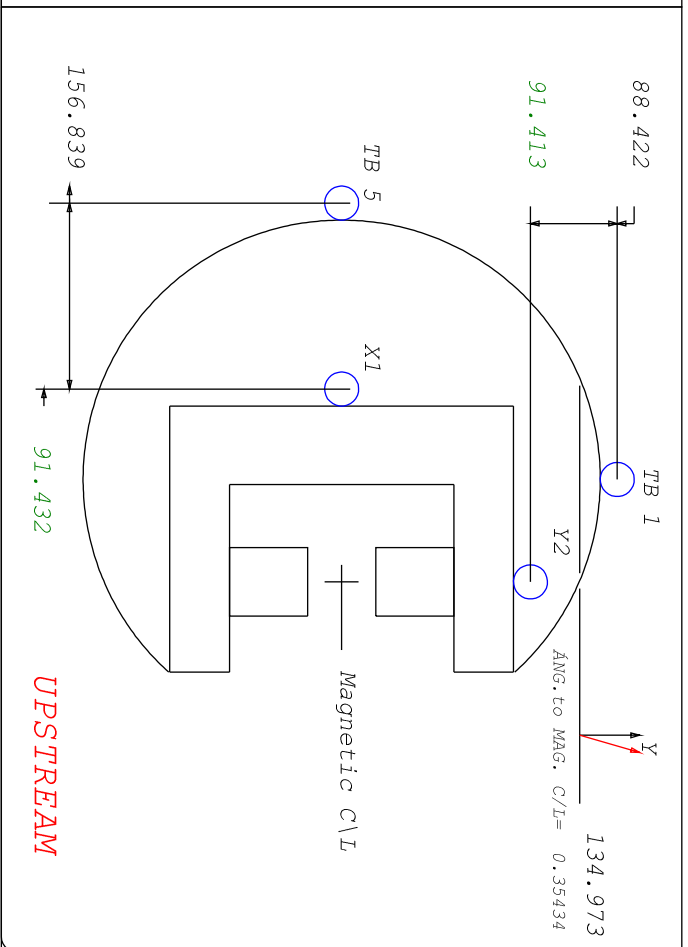
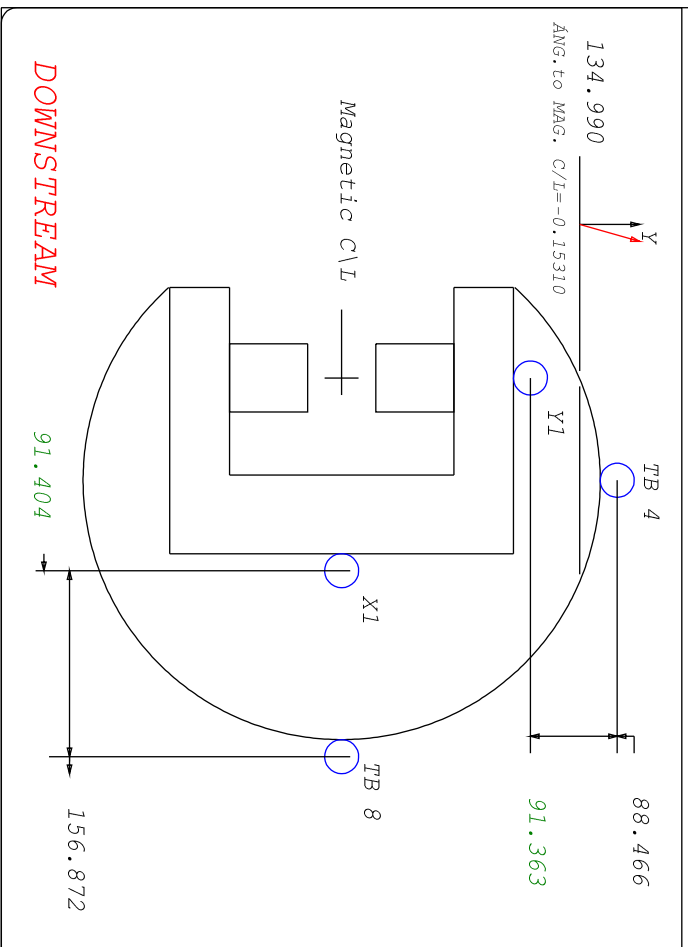
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.0836	179.8348	-1558.119
2	-0.0073	179.7766	-584.4248
3	-0.1908	179.7777	591.5519
4	-0.1970	179.8292	1562.2951
5	248.2709	0.0190	-1558.095
6	248.1902	-0.0516	-584.4646
7	248.1771	0.0350	591.6654
8	248.2757	-0.1355	1562.4157

	C/L Offset	Length
Top Magnetic Structure	0.050	3380.954
Bottom Magnetic Structure	-0.050	3380.978
Strongback	0.508	3399.924

Dimensions in mm

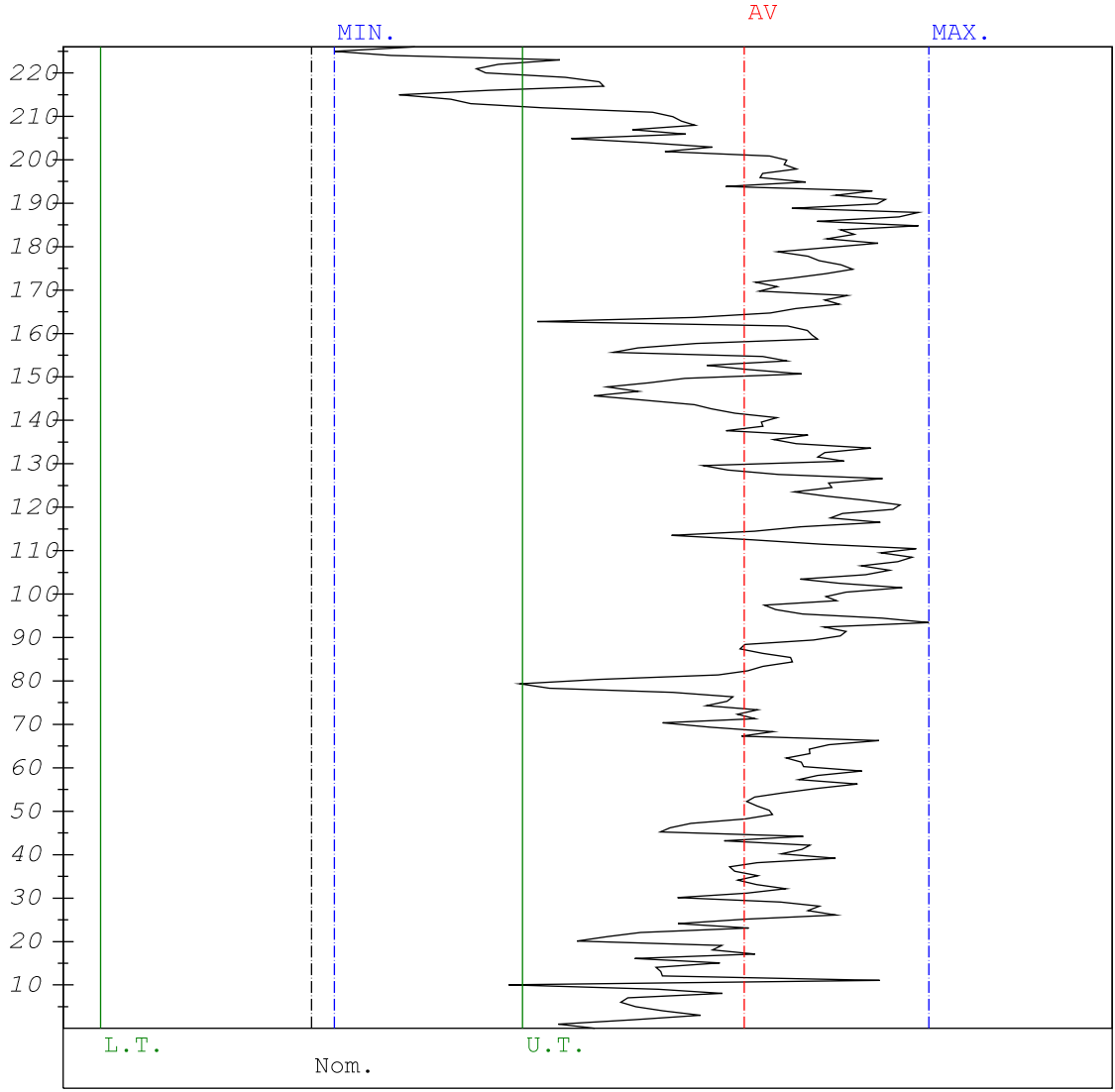
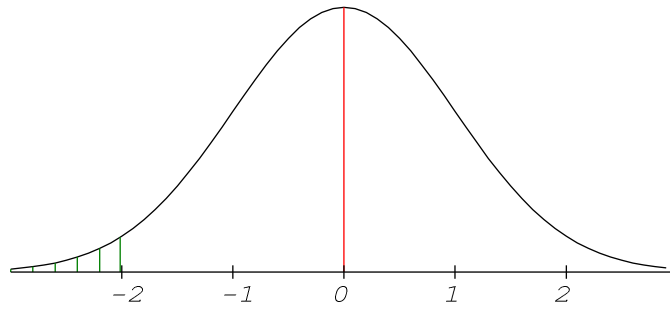
Angles in mrad



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LEITZ CMM

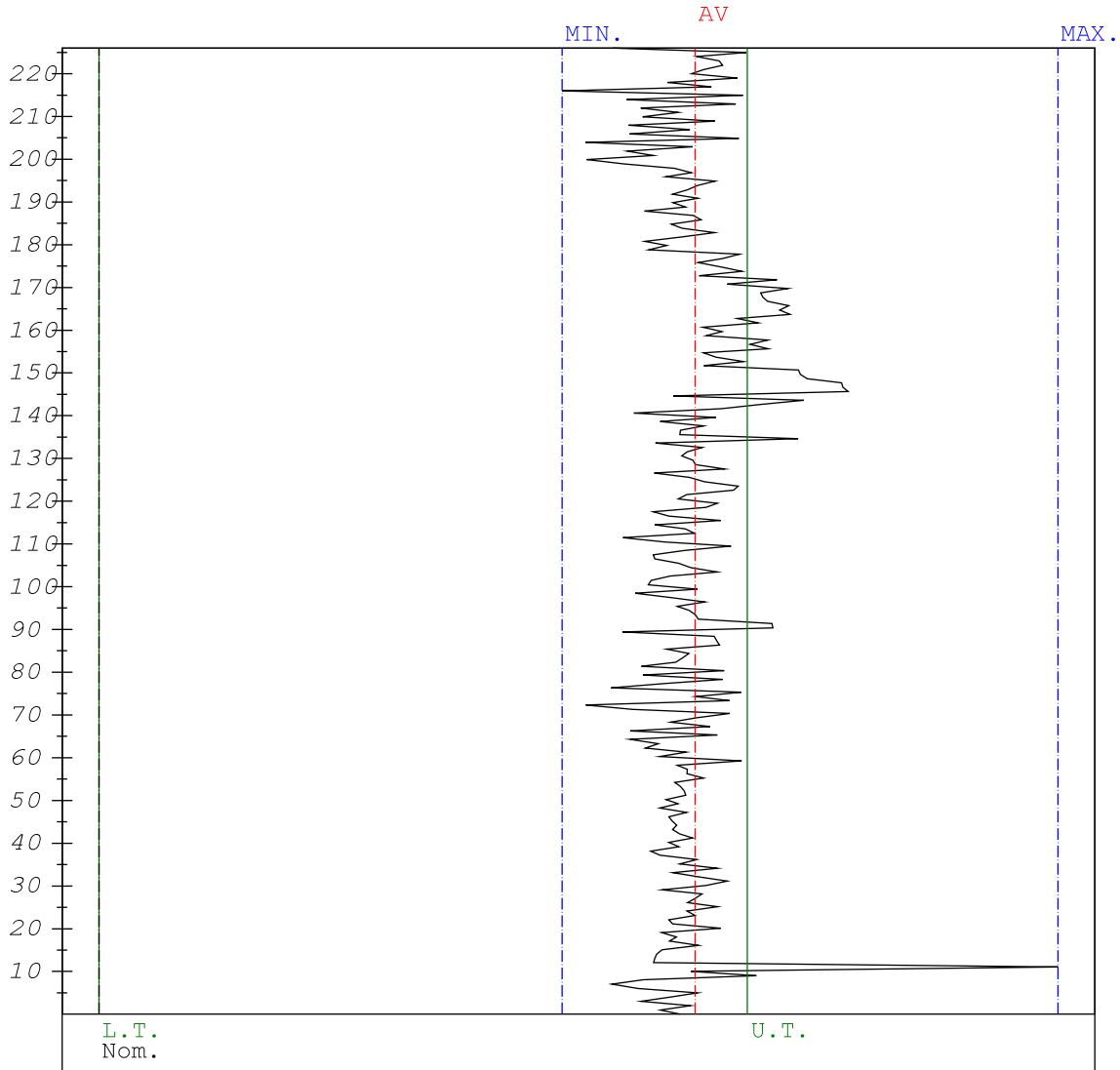
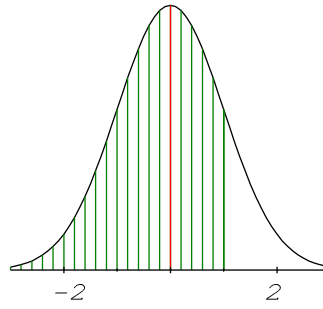
Undulator Dimensional Fiducialization  
Post Magnetic Alignment

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Nominal : 4.5000	Averag : 5.5254	Cent.-Dev. : 1.0254
Up. Tol. : 0.5	Maximum : 5.9624	U.Tol.Ex. > : 97.8 %
Low.Tol. : -0.5	Minimum : 4.5542	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2609	In Tolerance: 2.2 %
Outlier : 0	Distribution : NOR	Dimension : mrad

<p><b>SLAC</b> LCLS-MMF LEITZ CMM</p>	<p>Statistical Evaluation Pole Tip Gap Angle Post Magnetic Alignment</p>	<p>DATE:13-APR-2007 UNDULATOR # 03 VERSION 1.6</p>
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Nominal : 0.0000	Averag : 0.0138	Cent.-Dev. : 0.0063
Up. Tol. : 0.015	Maximum : 0.0222	U.Tol.Ex. > : 15.7 %
Low.Tol. : 0	Minimum : 0.0107	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.0012	In Tolerance: 84.3 %
Outlier : 0	Distribution : NOR	Dimension : mm

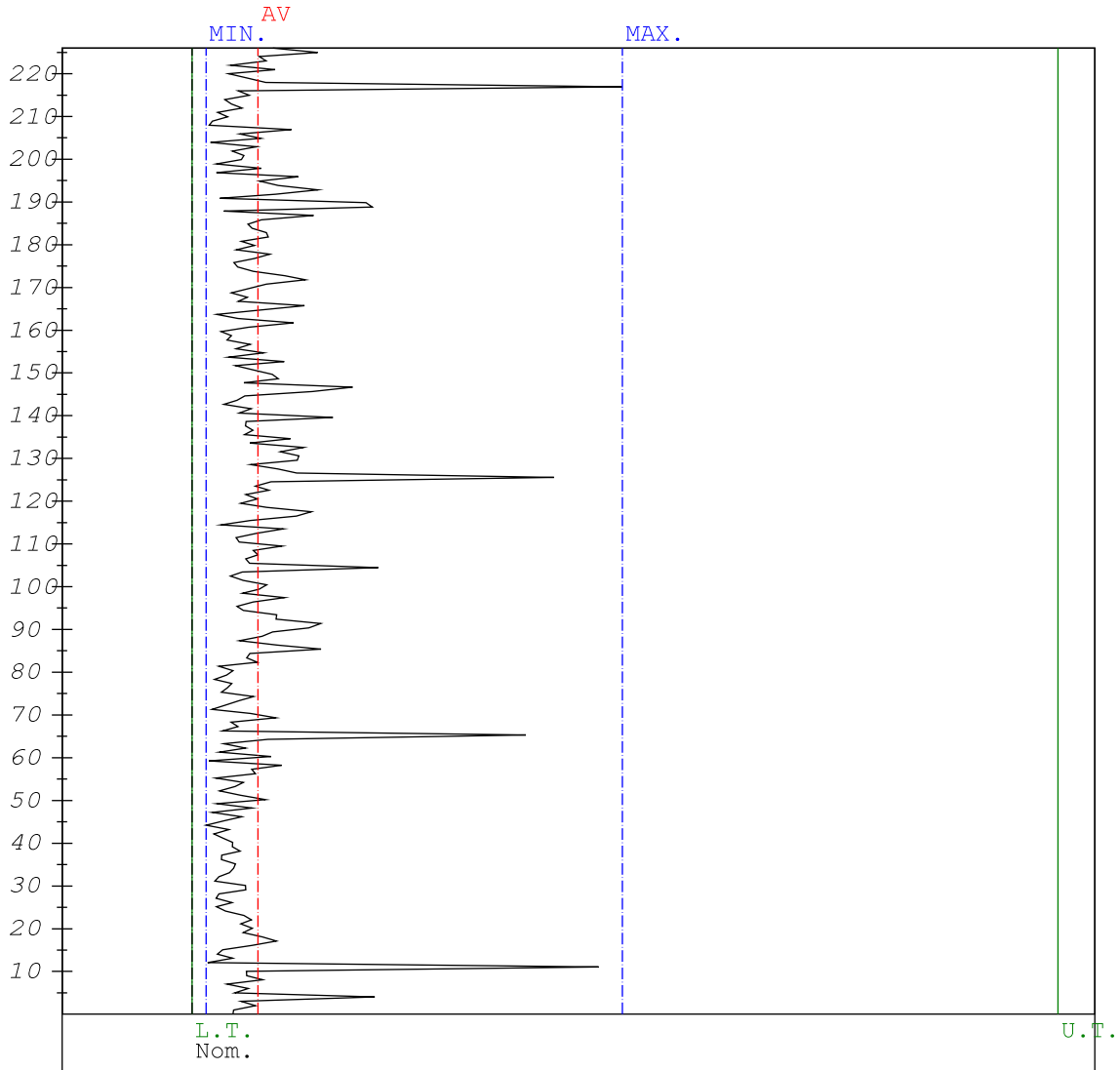
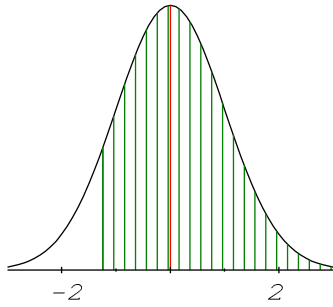
**SLAC**  
LCLS-MMF  
LEITZ CMM

Statistical Evaluation  
Top Pole Tip Form  
Post Magnetic Alignment

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UNDULATOR # 03

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Nominal : 0.0000	Averag : 0.0011	Cent.-Dev. :-0.0064
Up. Tol. : 0.015	Maximum : 0.0075	U.Tol.Ex. > : 0.0 %
Low.Tol. : 0	Minimum : 0.0002	L.Tol.Ex. < : 10.7 %
Spl.Size : 226	Stand.-Dev.: 0.0009	In Tolerance: 89.3 %
Outlier : 0	Distribution : NOR	Dimension : mm

**SLAC**  
LCLS-MMF  
LEITZ CMM

Statistical Evaluation  
Bottom Pole Tip Form  
Post Magnetic Alignment

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UNDULATOR # 03

VERSION 1.6