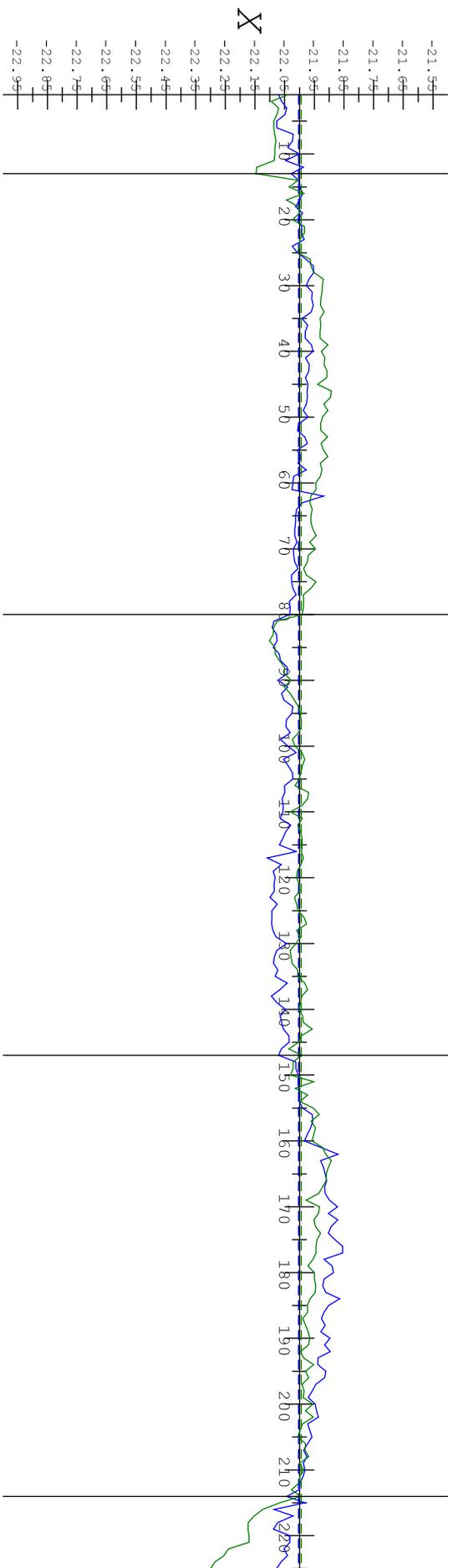


Pole Tip Number ----->

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>SLAC LCLS-MMF LEITZ CMM</p>	<p>Undulator Pole Tip Angles Post Magnetic Alignment</p>	<p>DATE: 13-DEC-2007 UNDULATOR # 13 DATASET # 0005 PROGRAM VERSION 2.5</p>
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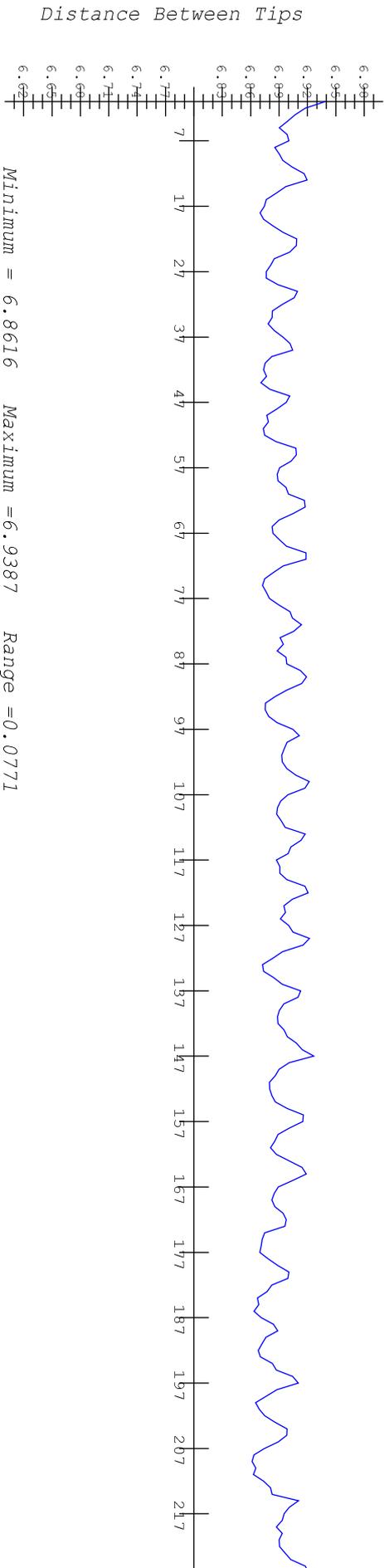
Pole Tip Number ----->



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 LCLS-MMF
 LEITZ CMM

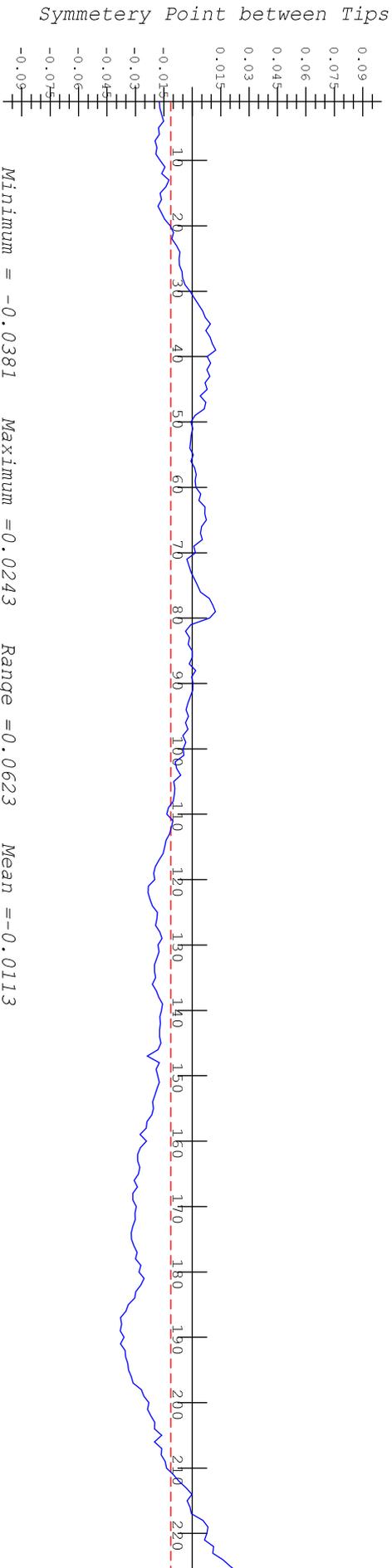
Undulator Pole Tip Location
 Post Magnetic Alignment

DATE: 13-DEC-2007
 UNDULATOR # 13
 DATASET # 0005
 PROGRAM VERSION 2.5



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

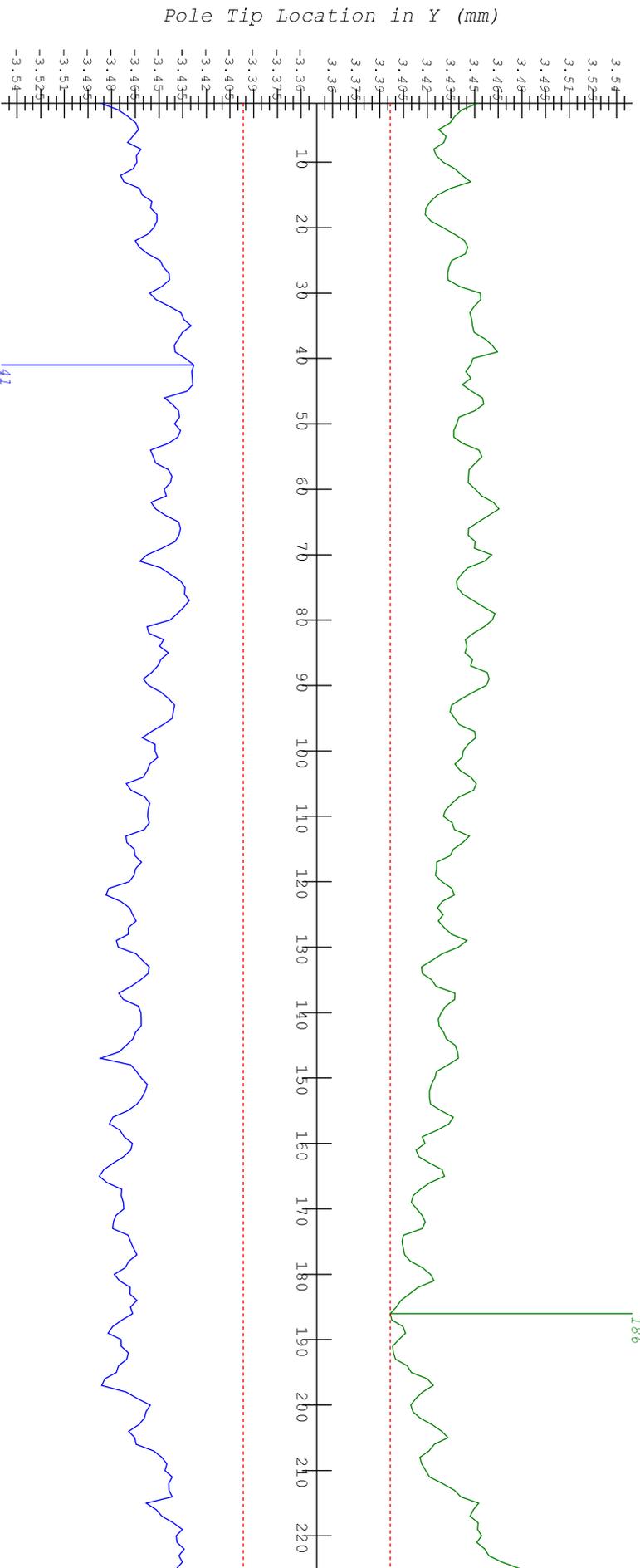
SLAC
 LCLS-MMF
 LEITZ CMM

Undulator Pole Tip Location
 Post Magnetic Alignment

DATE: 13-DEC-2007
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 DATASET # 0005
 PROGRAM VERSION 2.5

Maximum Chamber Gap = 6.7932

Minimum = 3.3966 Maximum = 3.4846 Range = 0.0881



Minimum = -3.4879 Maximum = -3.4280 Range = 0.0599

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: 13-DEC-2007
UNDULATOR # 13
DATASET # 0005
PROGRAM VERSION 2.5



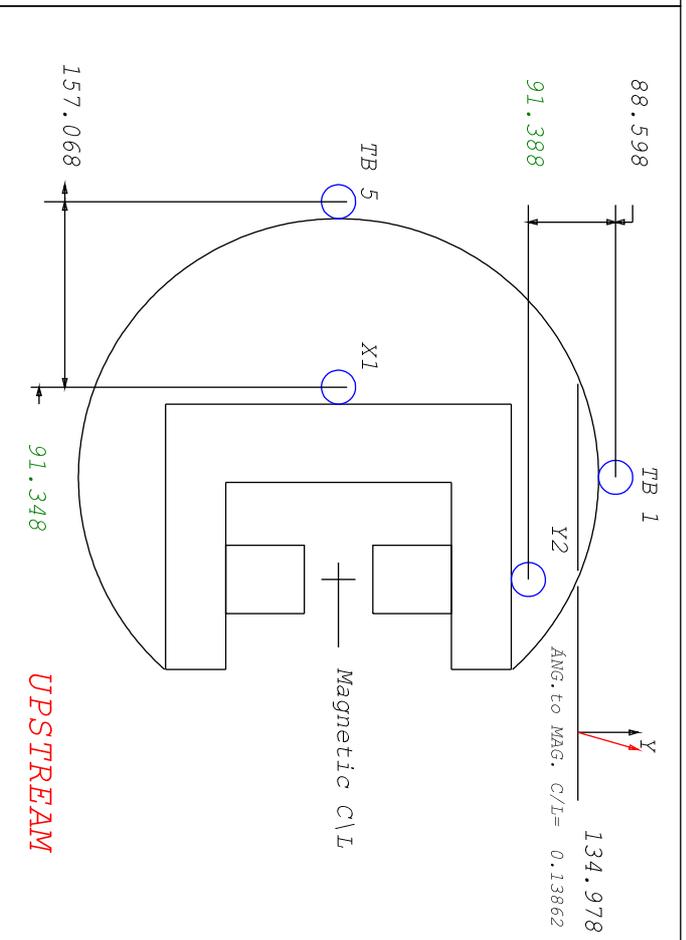
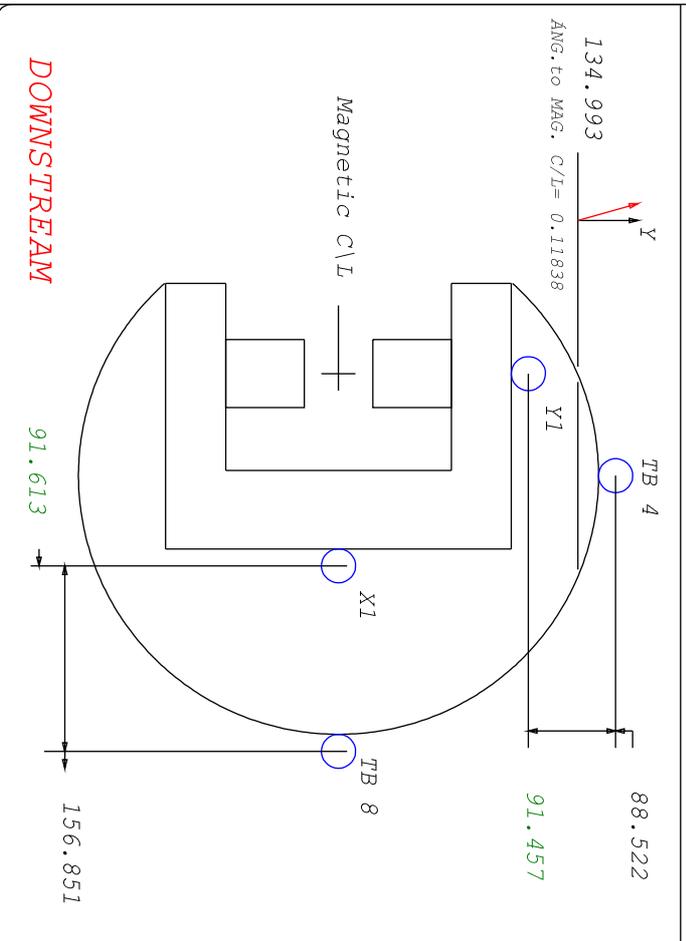
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.0918	179.9859	-1558.284
2	0.2391	180.0057	-584.4562
3	0.1397	179.8895	591.3056
4	0.1080	179.9785	1562.0752
5	248.4157	0.0688	-1558.328
6	248.3787	-0.0338	-584.6024
7	248.4061	0.0329	591.3237
8	248.4641	-0.0825	1562.0802

	C/L Offset	Length
Top Magnetic Structure	-0.096	3381.063
Bottom Magnetic Structure	0.096	3381.286
Strongback	0.268	3399.784

Dimensions in mm

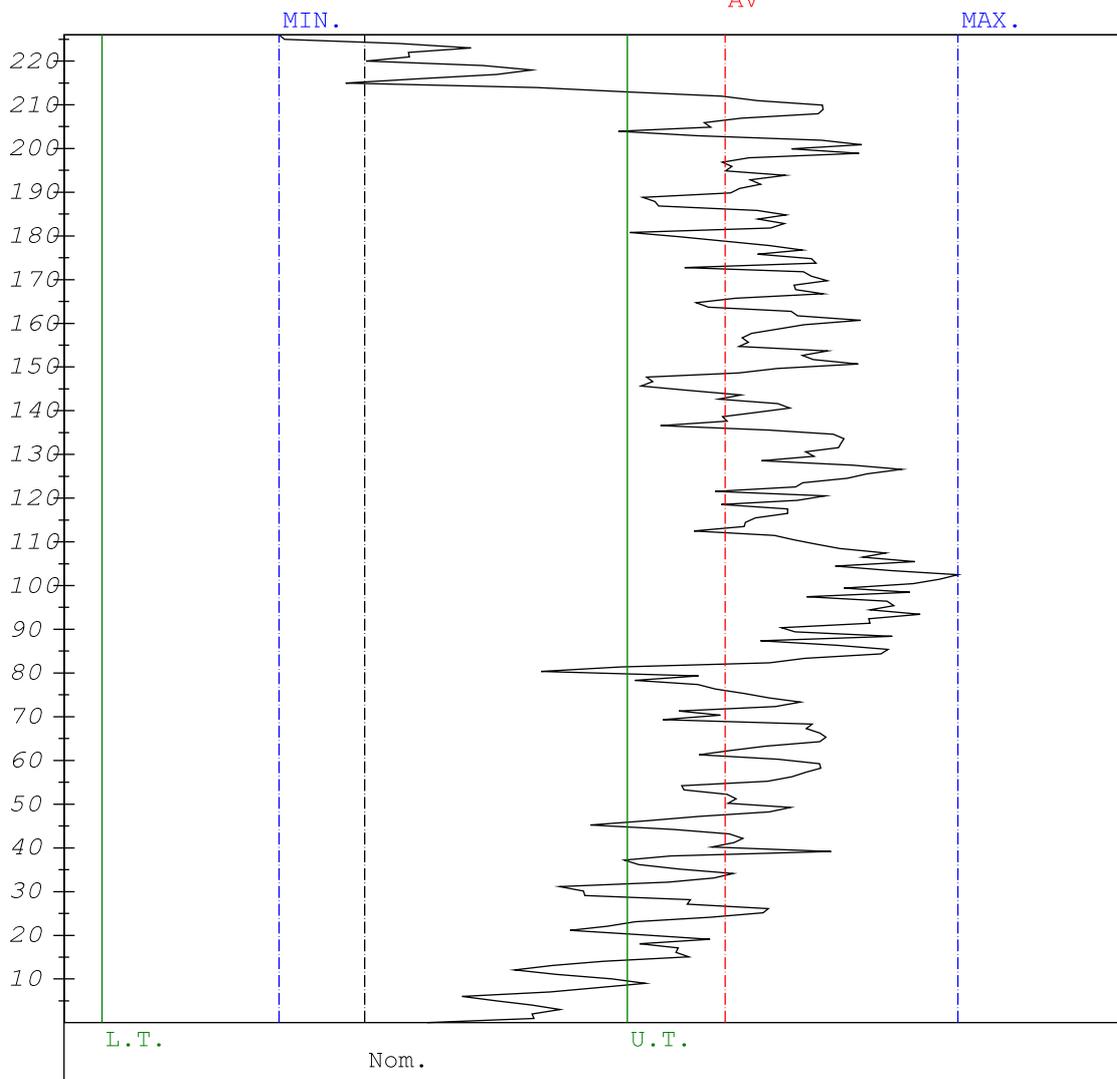
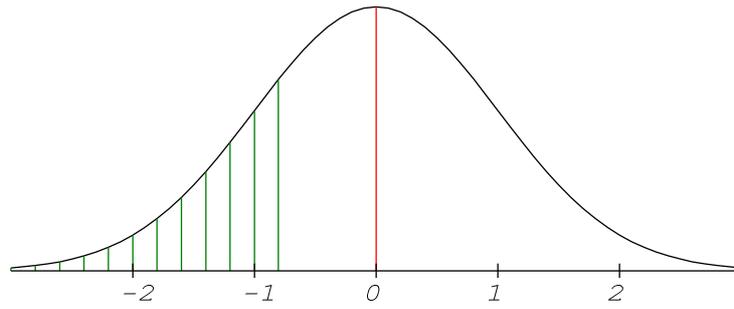
Angles in mrad



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LEITZ CMM

Undulator Dimensional Fiducialization
Post Magnetic Alignment

DATE: 13-DEC-2007
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DATASET # 0005
PROGRAM VERSION 2.5



Nominal : 4.5000	Averag : 5.1862	Cent.-Dev. : 0.6862
Up. Tol. : 0.5	Maximum : 5.6293	U.Tol.Ex. > : 78.9 %
Low.Tol. : -0.5	Minimum : 4.3373	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2317	In Tolerance: 21.1 %
Outlier : 0	Distribution : NOR	Dimension : mrad

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LCLS-MMF
LEITZ CMM

Statistical Evaluation
Pole Tip Gap Angle
Post Magnetic Alignment

DATE:13-DEC-2007

UNDULATOR # 13
DATASET # 0005

PROGRAM VERSION 2.5