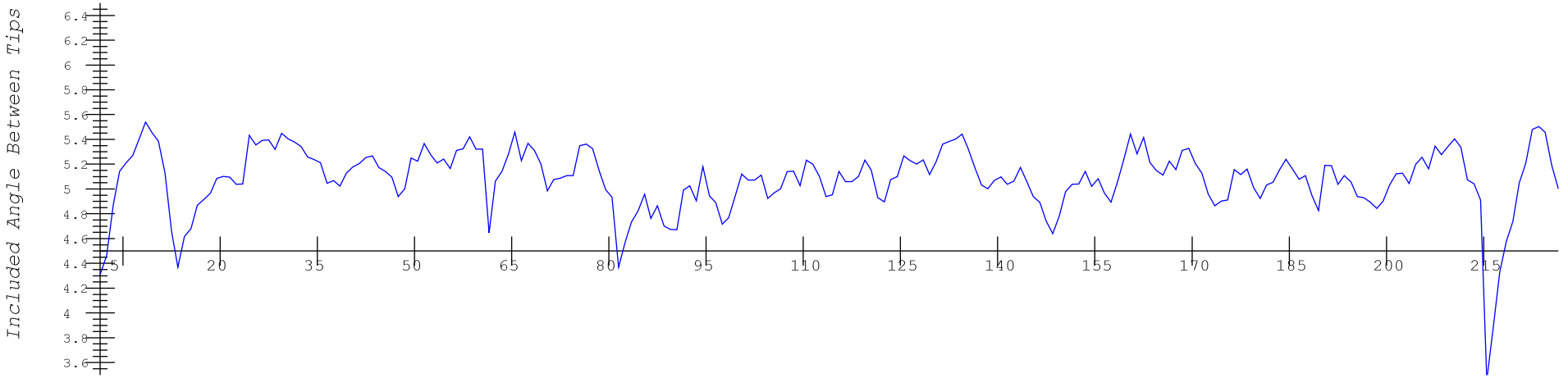
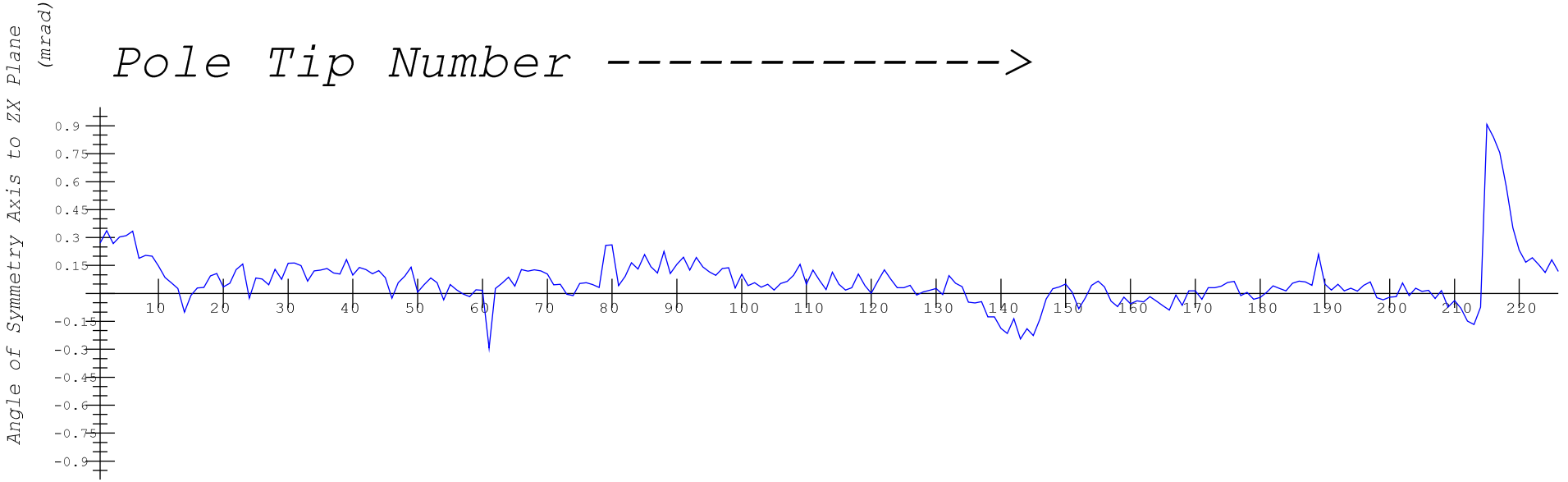


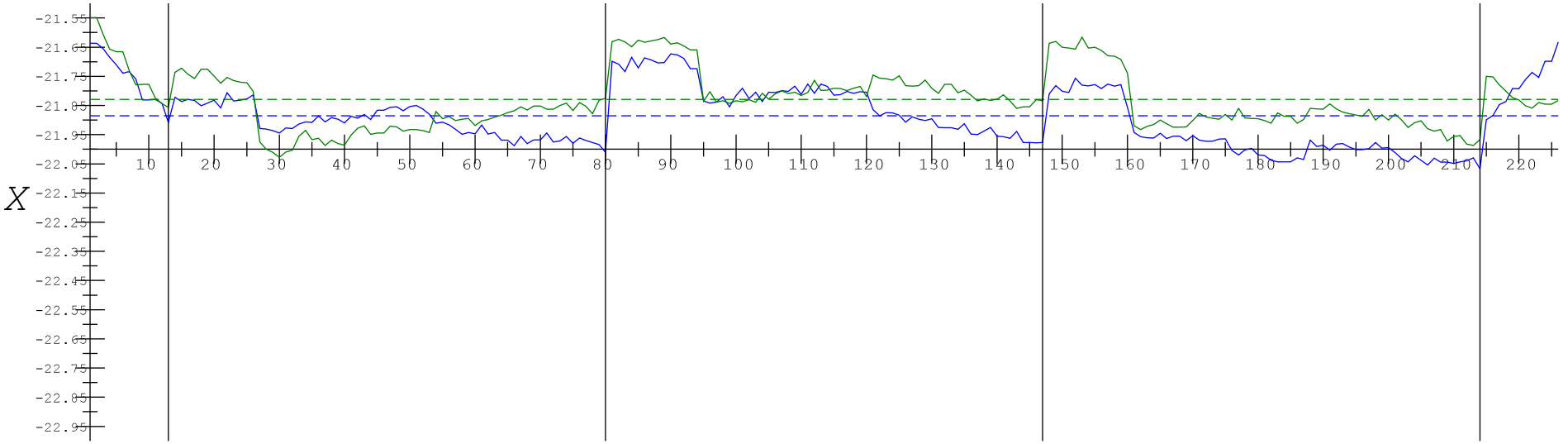
Pole Tip Number ---------->



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

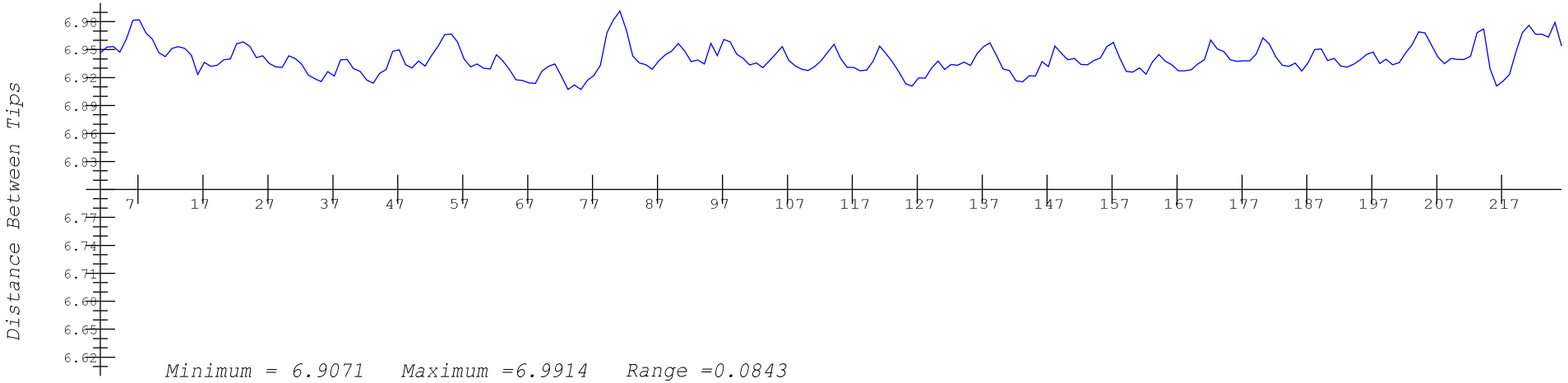
SLAC LCLS-MMF LEITZ CMM	*Undulator Pole Tip Angles* *Post Magnetic Alignment*	*DATE:23-MAR-2007* *UNDULATOR # 02* *VERSION 1.6*

Pole Tip Number ---------->



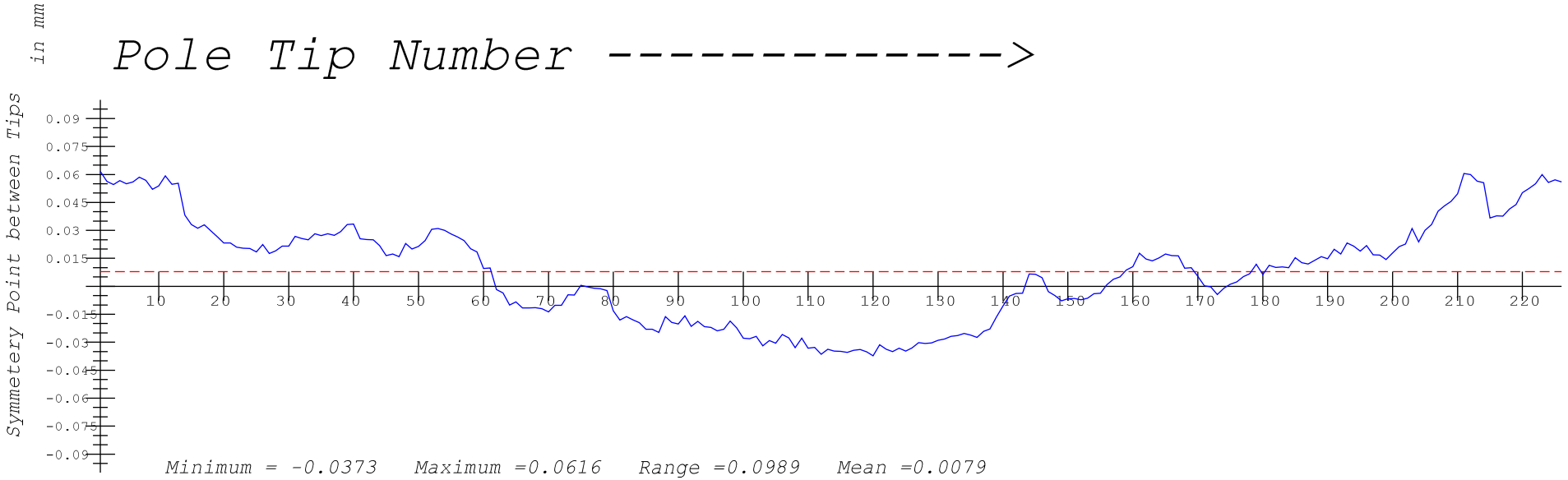
X values in mm
Green Solid = Point on front face of Upper Pole Tip 10mm above Magnetic C/L
Green Dash = Mean value of all Upper Pole Tips 10mm above Magnetic C/L Mean value Upper Pole Tips = -21.829
Blue Solid = Point on front face of Lower Pole Tip 10mm below Magnetic C/L
Blue Dash = Mean value of all Lower Pole Tips 10mm below Magnetic C/L Mean value Lower Pole Tips = -21.886

SLAC LCLS-MMF LEITZ CMM	Undulator Pole Tip Location Post Magnetic Alignment	DATE:23-MAR-2007 UNDULATOR # 02 VERSION 1.6



Minimum = 6.9071 Maximum =6.9914 Range =0.0843

Pole Tip Number ---------->

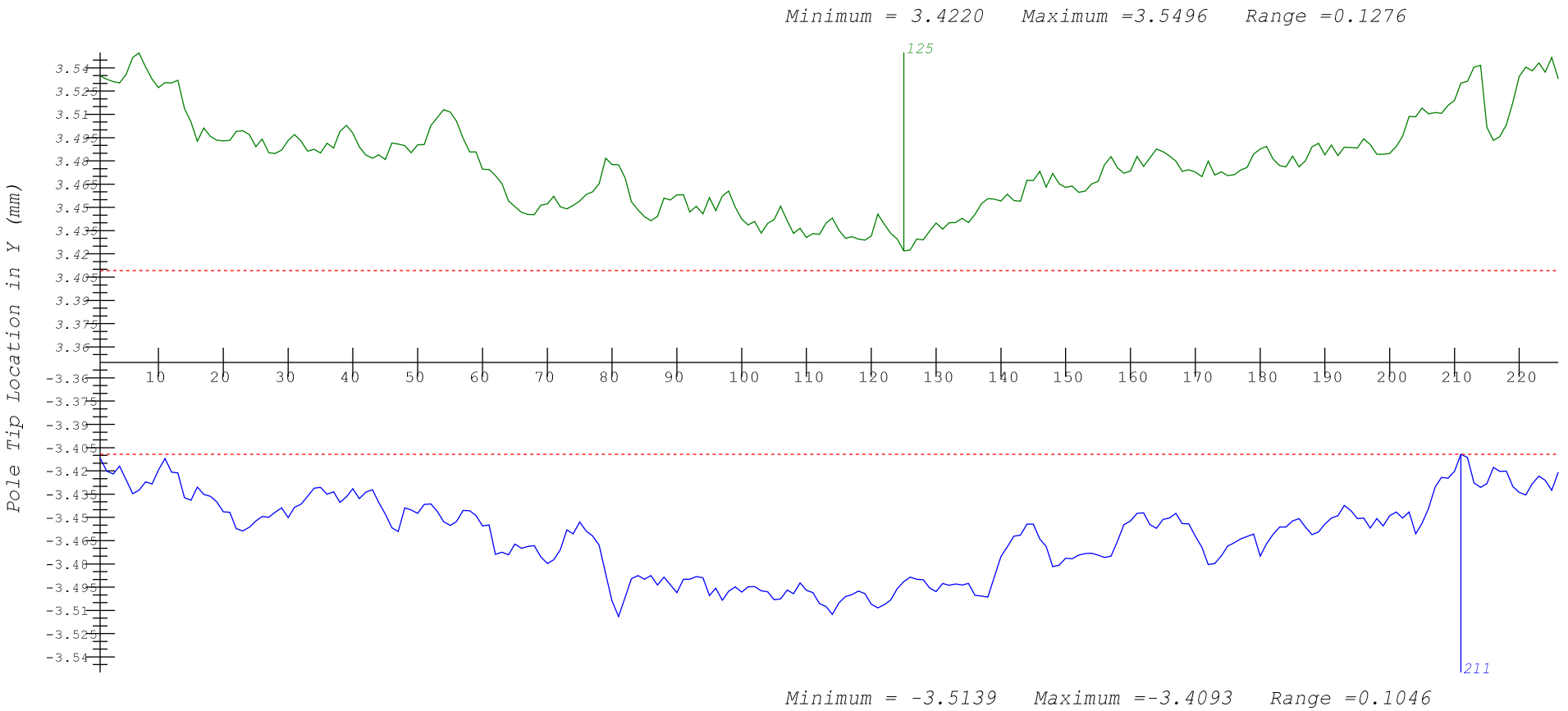


Minimum = -0.0373 Maximum =0.0616 Range =0.0989 Mean =0.0079

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 Symmetery 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-MAR-2007* *UNDULATOR # 02* *VERSION 1.6*

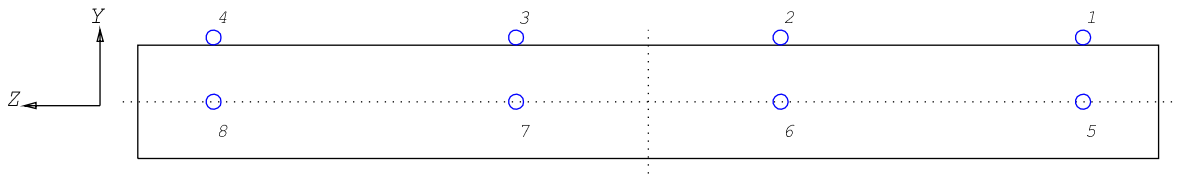
Maximum Chamber Gap = 6.8185



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 Magentic C\L (2*Min. Dev. from C\L)*

SLAC LCLS-MMF LEITZ CMM	*Undulator Pole Tip Location* *Post Magnetic Alignment*	*DATE:23-MAR-2007* *UNDULATOR # 02* *VERSION 1.6*

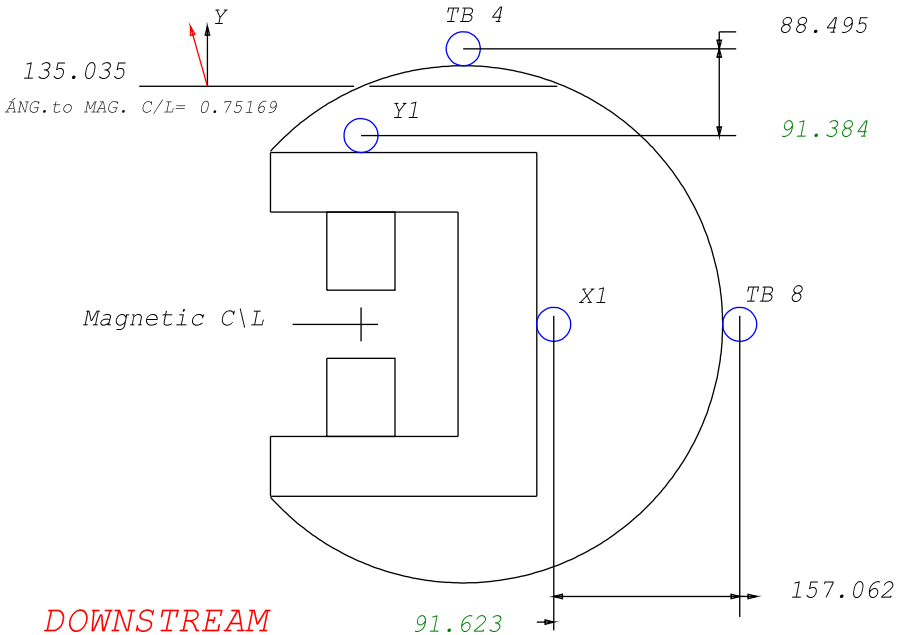


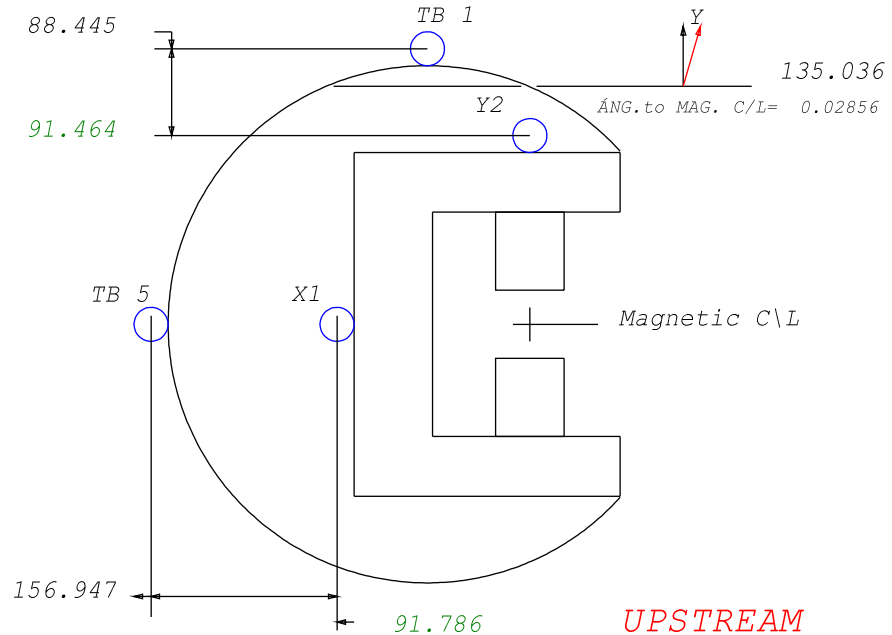
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.3093	179.9092	-1558.062
2	0.5030	179.8405	-584.4719
3	0.3790	179.8329	591.4654
4	0.2835	179.8794	1562.3836
5	248.7328	-0.0704	-1558.059
6	248.8039	-0.1485	-584.4129
7	248.7757	-0.1168	591.7241
8	248.6846	0.0225	1562.5728

	C\L Offset	Length
Top Magnetic Structure	-0.011	3380.968
Bottom Magnetic Structure	0.011	3381.053
Strongback	0.561	3399.962

Dimensions in mm Angles in mrad

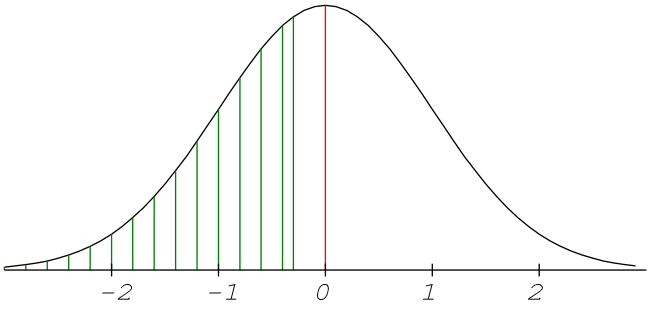


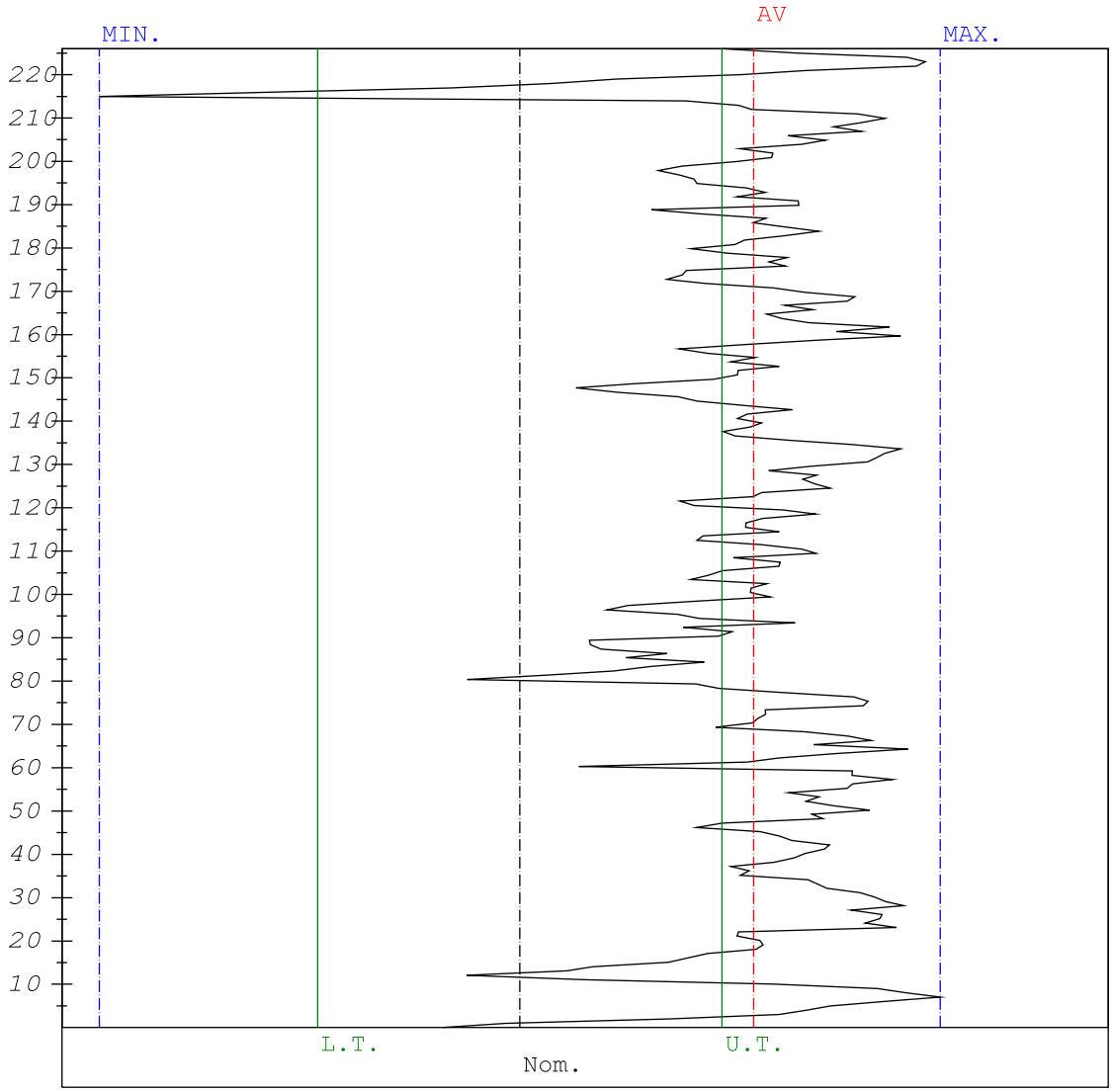


SLAC
LCLS-MMF
LEITZ CMM

Undulator Dimensional Fiducialization
Post Magnetic Alignment

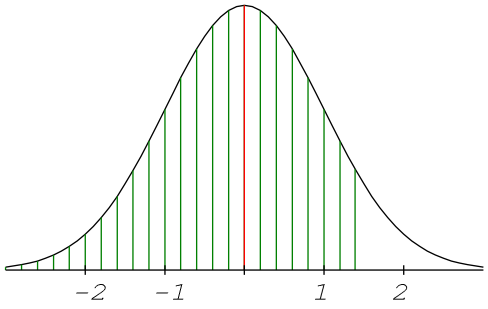
DATE:23-MAR-2007
UNDULATOR # 02
VERSION 1.6

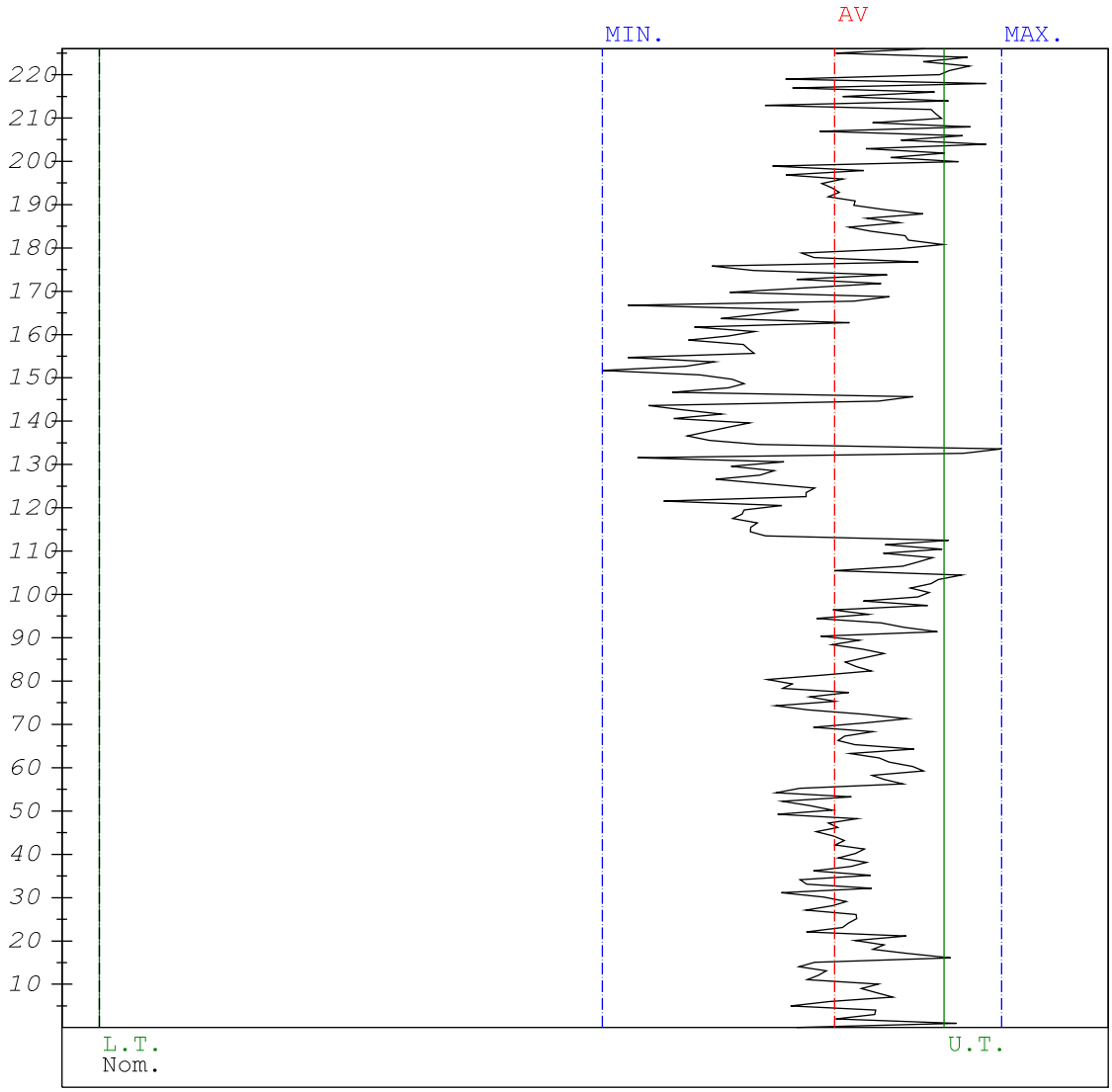




Nominal : 4.5000	Averag :5.0783	Cent.-Dev. :0.5783
Up. Tol. :0.5	Maximum : 5.5398	U.Tol.Ex. > : 61.8 %
Low.Tol. :-0.5	Minimum : 3.4598	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2615	In Tolerance: 38.2 %
Outlier : 0	Distribution : NOR	Dimension : mrad

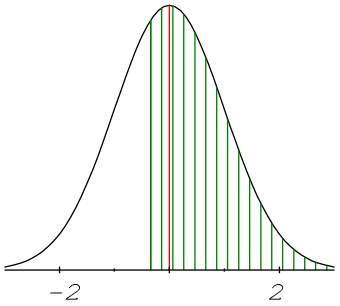
SLAC LCLS-MMF LEITZ CMM	Statistical Evaluation Pole Tip Gap Angle *Post Magnetic Alignment*	*DATE:23-MAR-2007* *UNDULATOR # 02* *VERSION 1.6*

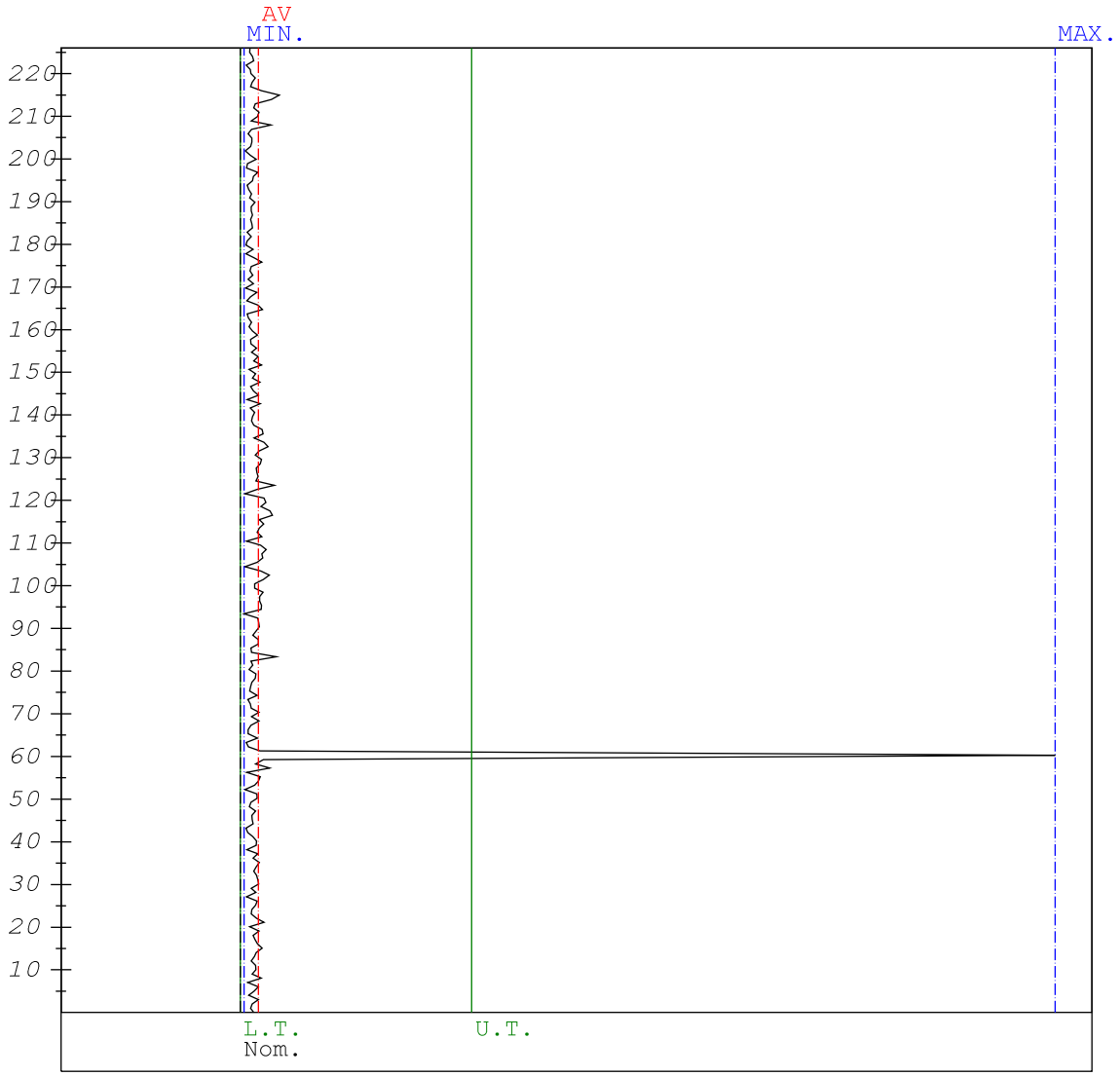




Nominal : 0.0000	Averag :0.0131	Cent.-Dev. :0.0056
Up. Tol. :0.015	Maximum : 0.0160	U.Tol.Ex. > : 8.2 %
Low.Tol. :0	Minimum : 0.0089	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.0014	In Tolerance: 91.8 %
Outlier : 0	Distribution : NOR	Dimension : mm

SLAC LCLS-MMF LEITZ CMM	Statistical Evaluation Top Pole Tip Form *Post Magnetic Alignment*	*DATE:23-MAR-2007* *UNDULATOR # 02* *VERSION 1.6*





Nominal : 0.0000	Averag :0.0012	Cent.-Dev. :-0.0063
Up. Tol. :0.015	Maximum : 0.0528	U.Tol.Ex. > : 0.0 %
Low.Tol. :0	Minimum : 0.0002	L.Tol.Ex. < : 36.7 %
Spl.Size : 226	Stand.-Dev.: 0.0035	In Tolerance: 63.3 %
Outlier : 0	Distribution : NOR	Dimension : mm

SLAC LCLS-MMF LEITZ CMM	Statistical Evaluation Bottom Pole Tip Form *Post Magnetic Alignment*	*DATE:23-MAR-2007* *UNDULATOR # 02* *VERSION 1.6*