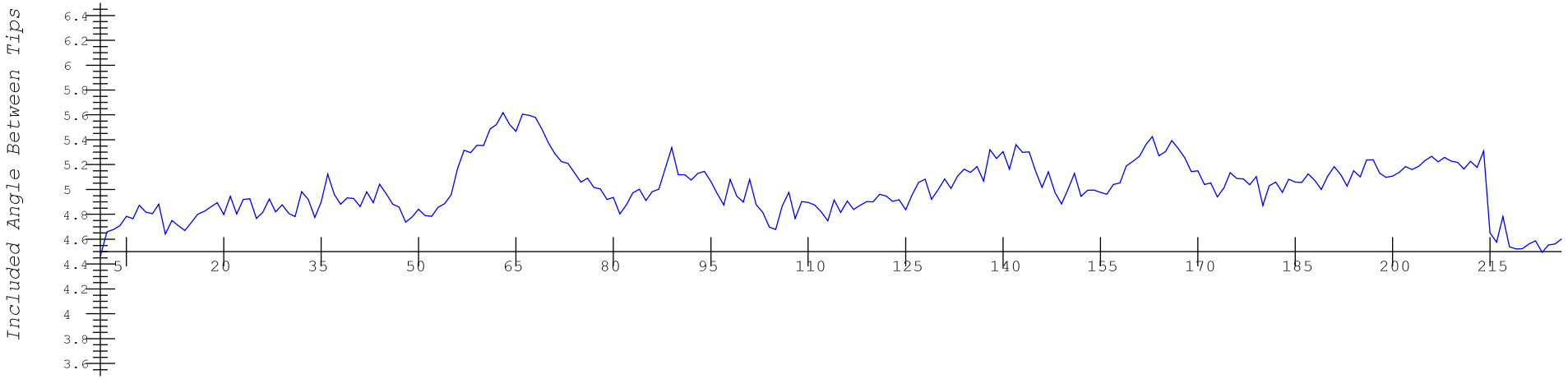
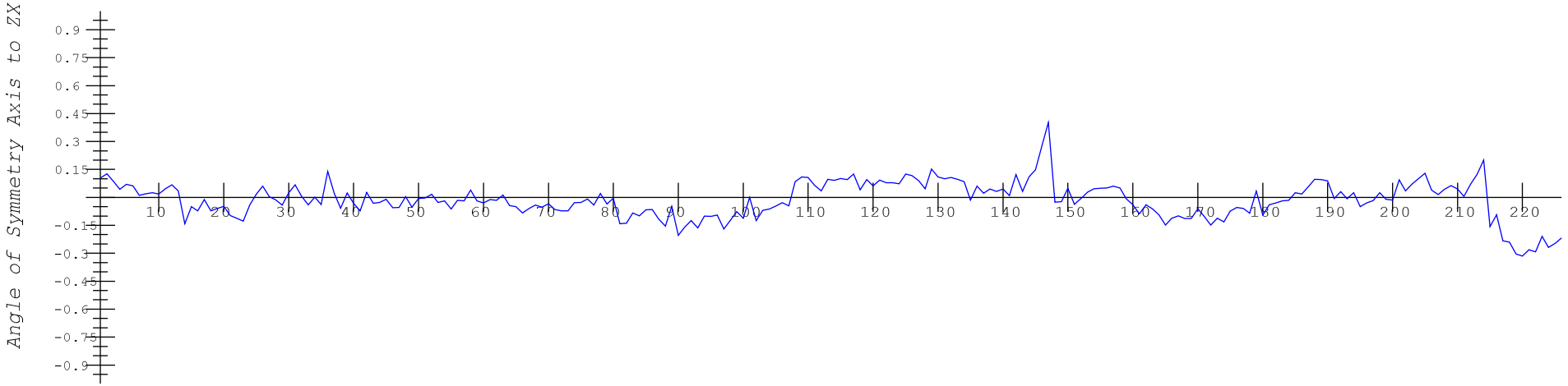


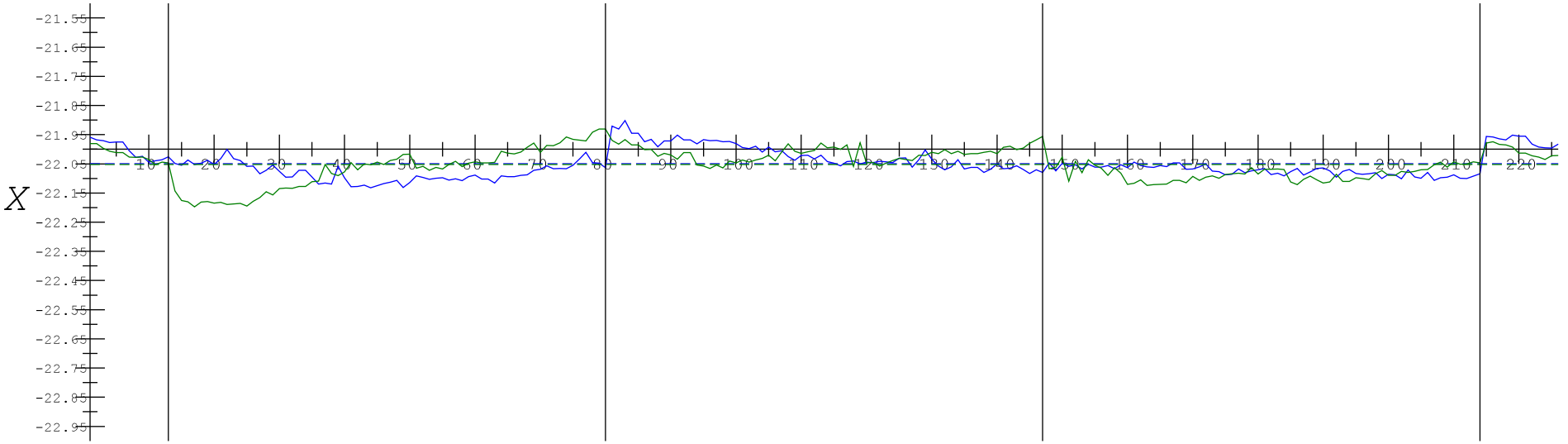
Pole Tip Number ---------->



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

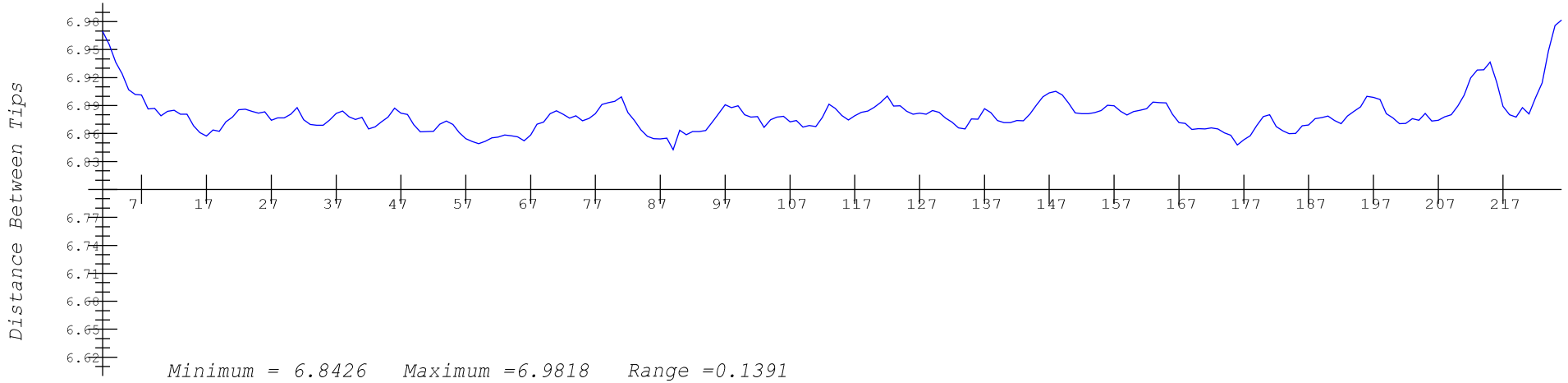
SLAC LCLS-MMF LEITZ CMM	*Undulator Pole Tip Angles* *Post Magnetic Alignment*	*DATE:04-DEC-2007* *UNDULATOR # 33* *DATASET # 0001* *PROGRAM VERSION 2.4*

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



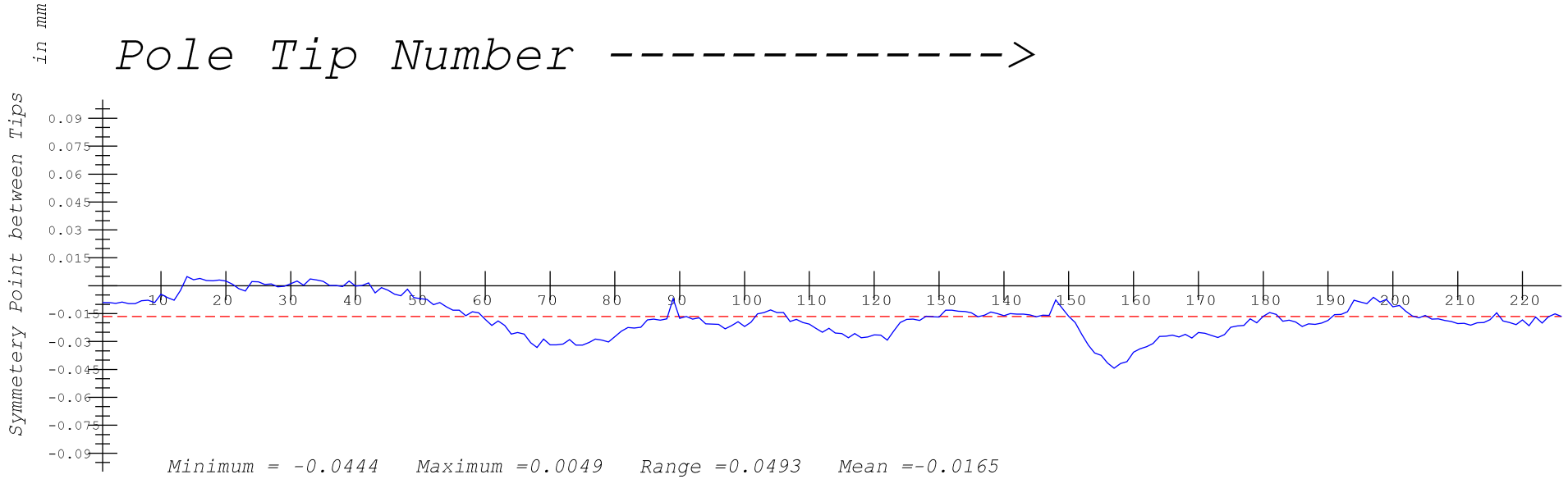
X values in mm
Green Solid = Point on front face of Upper Pole Tip 10mm above Magnetic C/L
Green Dash = Mean value of all Upper Pole Tips 10mm above Magnetic C/L Mean value Upper Pole Tips = -22.052
Blue Solid = Point on front face of Lower Pole Tip 10mm below Magnetic C/L
Blue Dash = Mean value of all Lower Pole Tips 10mm below Magnetic C/L Mean value Lower Pole Tips = -22.050

SLAC LCLS-MMF LEITZ CMM	Undulator Pole Tip Location Post Magnetic Alignment	DATE:04-DEC-2007 UNDULATOR # 33 DATASET # 0001 PROGRAM VERSION 2.4



Minimum = 6.8426 Maximum =6.9818 Range =0.1391

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



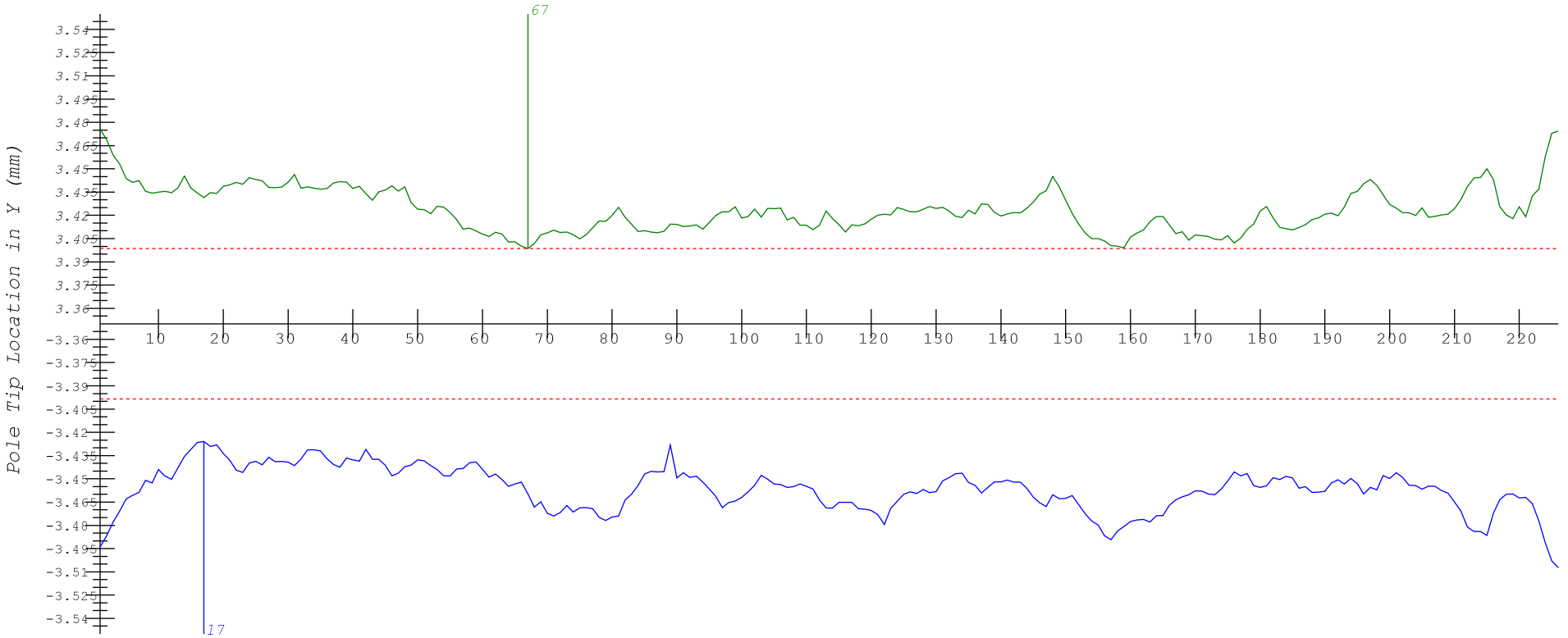
Minimum = -0.0444 Maximum =0.0049 Range =0.0493 Mean =-0.0165

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:04-DEC-2007* *UNDULATOR # 33* *DATASET # 0001* *PROGRAM VERSION 2.4*

Maximum Chamber Gap = 6.7970

Minimum = 3.3985 Maximum =3.4758 Range =0.0773

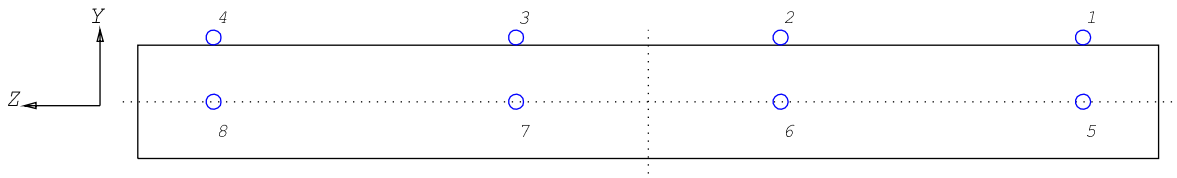


Minimum = -3.5074 Maximum =-3.4259 Range =0.0815

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:04-DEC-2007* *UNDULATOR # 33* *DATASET # 0001* *PROGRAM VERSION 2.4*

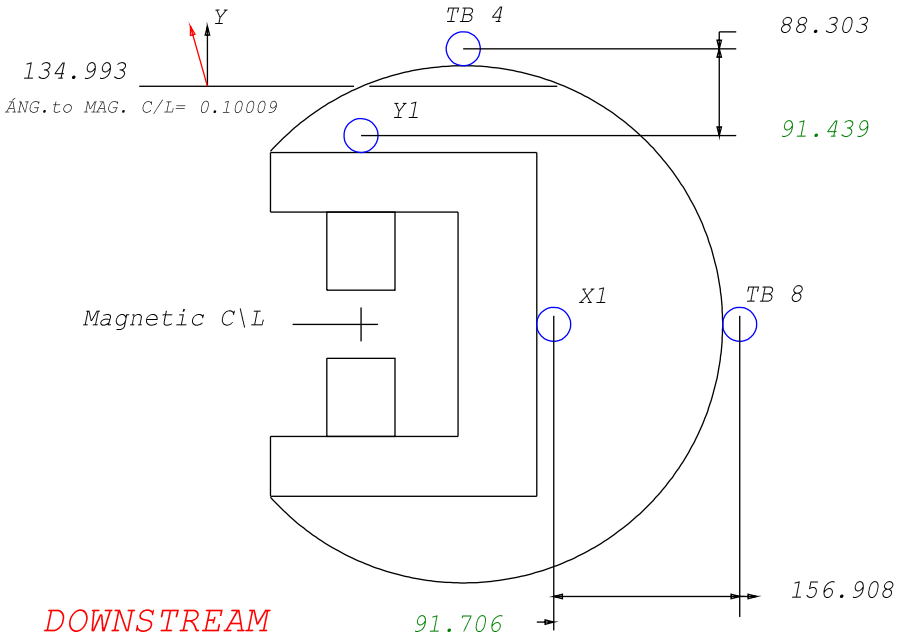


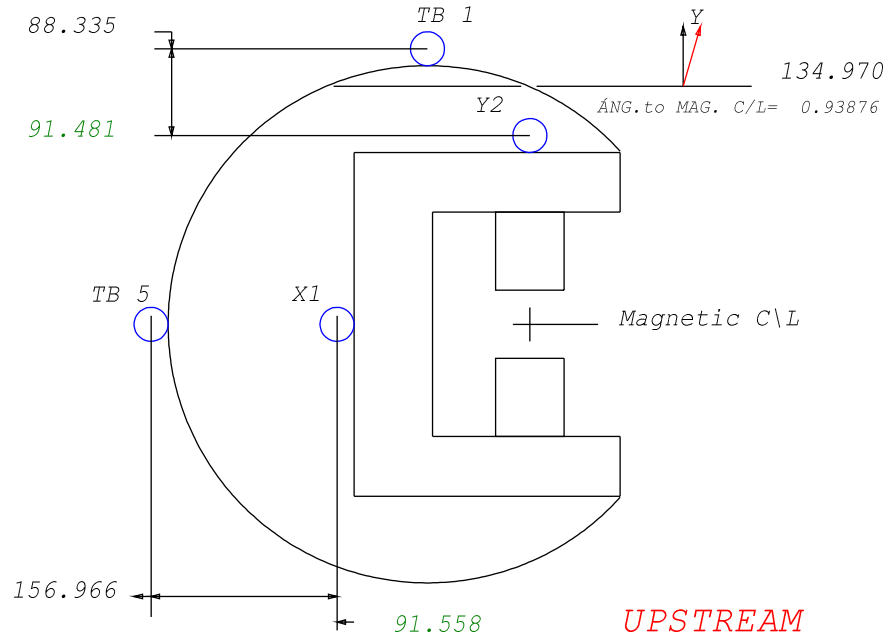
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.2244	179.8157	-1558.336
2	0.3796	179.6848	-584.6340
3	0.4502	179.7025	591.3442
4	0.4407	179.7415	1562.1362
5	248.5237	0.0270	-1558.338
6	248.6084	-0.0425	-584.6845
7	248.6326	-0.0357	591.3746
8	248.6137	-0.0258	1562.2104

	C\L Offset	Length
Top Magnetic Structure	-0.036	3381.024
Bottom Magnetic Structure	0.036	3381.215
Strongback	0.344	3399.899

Dimensions in mm Angles in mrad





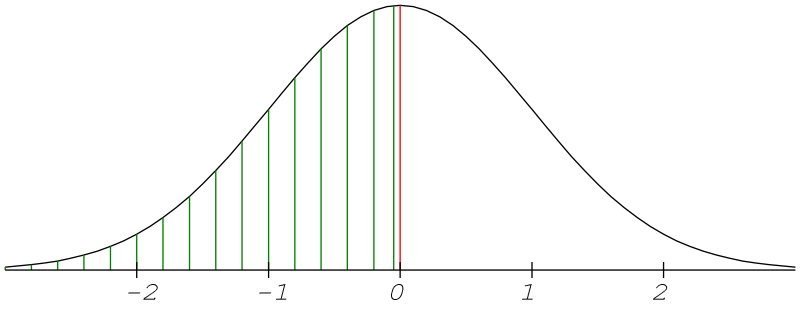
SLAC
LCLS-MMF
LEITZ CMM

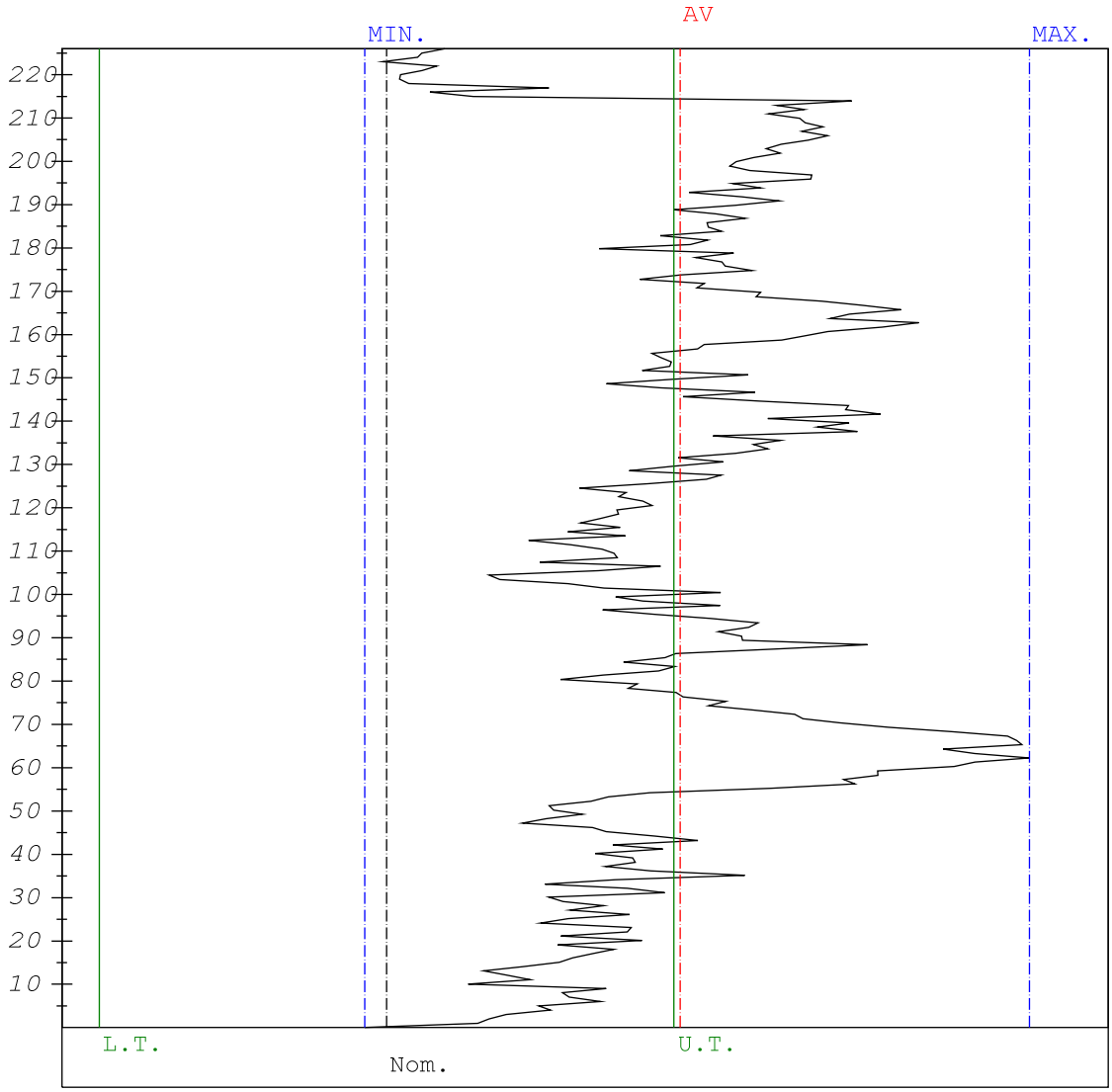
Undulator Dimensional Fiducialization
Post Magnetic Alignment

DATE:04-DEC-2007

UNDULATOR # 33
DATASET # 0001

PROGRAM VERSION 2.4





Nominal : 4.5000	Averag :5.0108	Cent.-Dev. :0.5108
Up. Tol. :0.5	Maximum : 5.6184	U.Tol.Ex. > : 51.9 %
Low.Tol. :-0.5	Minimum : 4.4618	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2265	In Tolerance: 48.1 %
Outlier : 0	Distribution : NOR	Dimension : mrad

SLAC LCLS-MMF LEITZ CMM	Statistical Evaluation Pole Tip Gap Angle *Post Magnetic Alignment*	*DATE:04-DEC-2007* *UNDULATOR # 33* *DATASET # 0001* *PROGRAM VERSION 2.4*