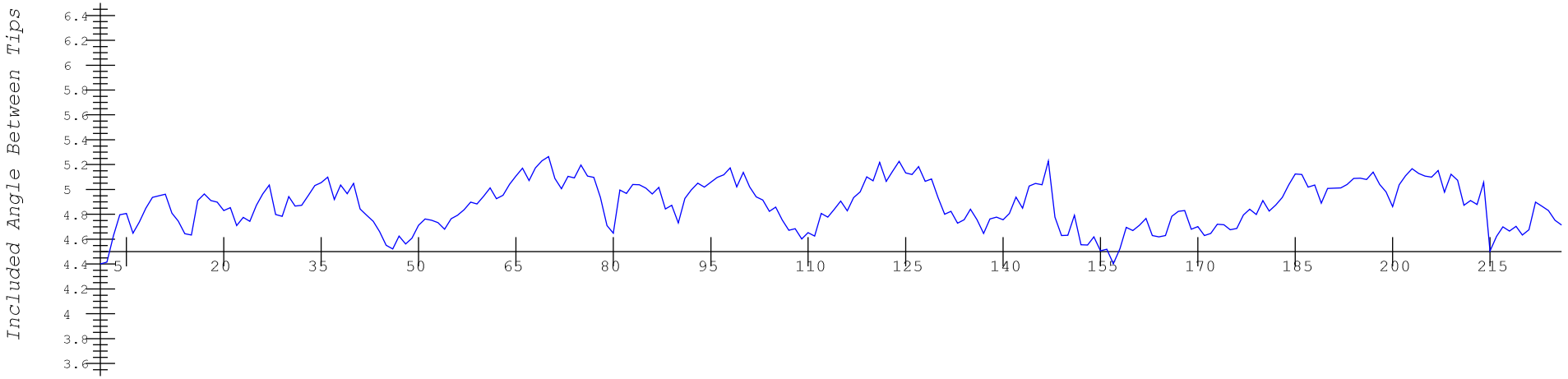
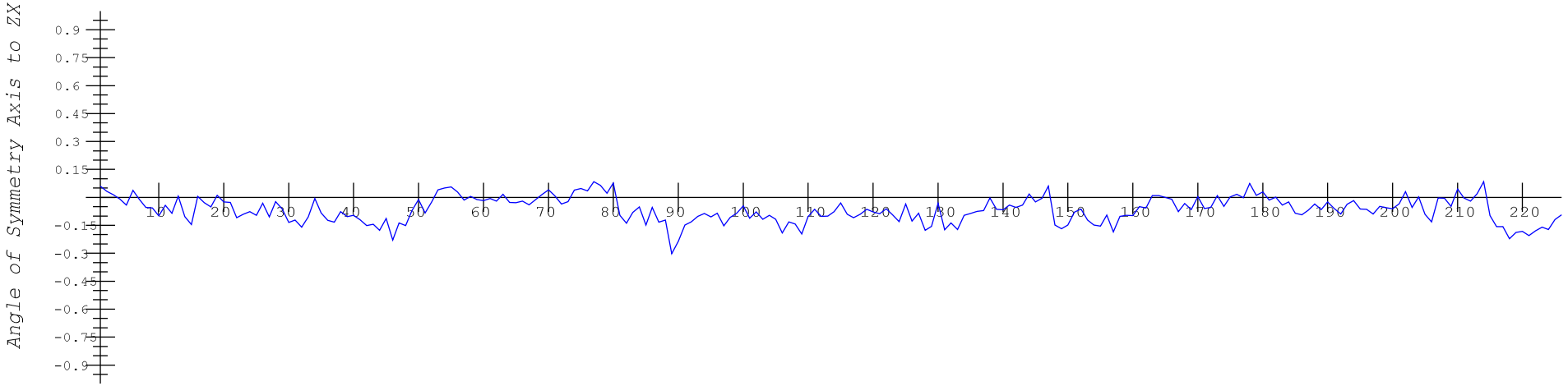


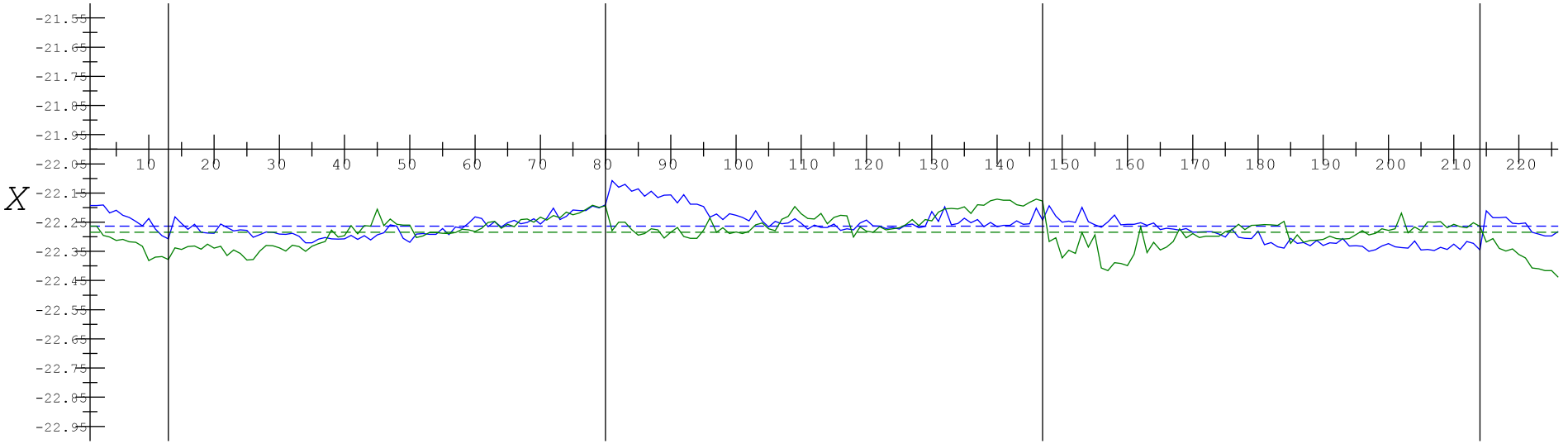
Pole Tip Number ---------->



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

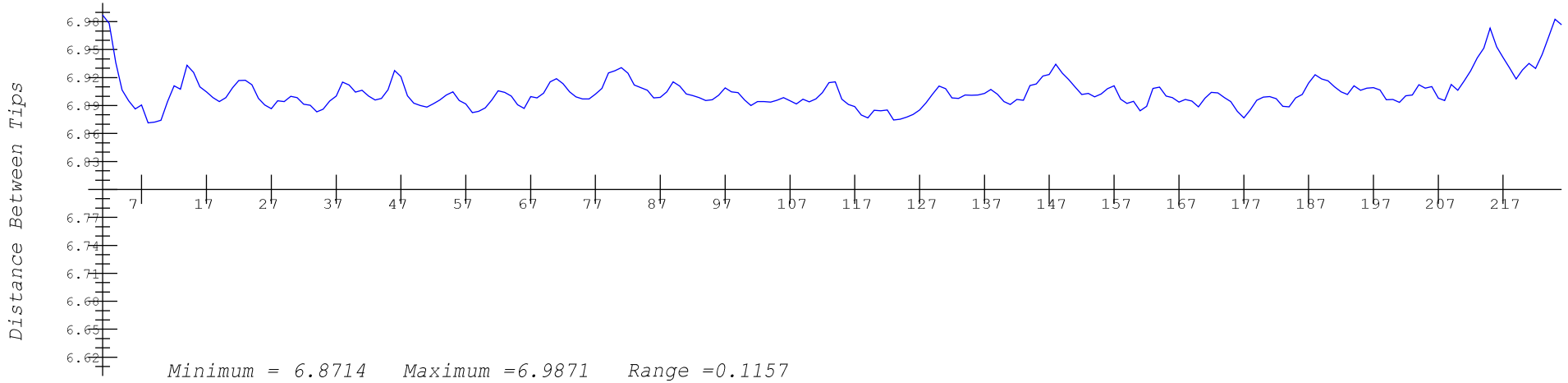
SLAC LCLS-MMF LEITZ CMM	*Undulator Pole Tip Angles* *Post Magnetic Alignment*	*DATE:30-JUN-2008* *UNDULATOR # 31* *DATASET # 0002* *PROGRAM VERSION 2.7*

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 = -22.285
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 = -22.264

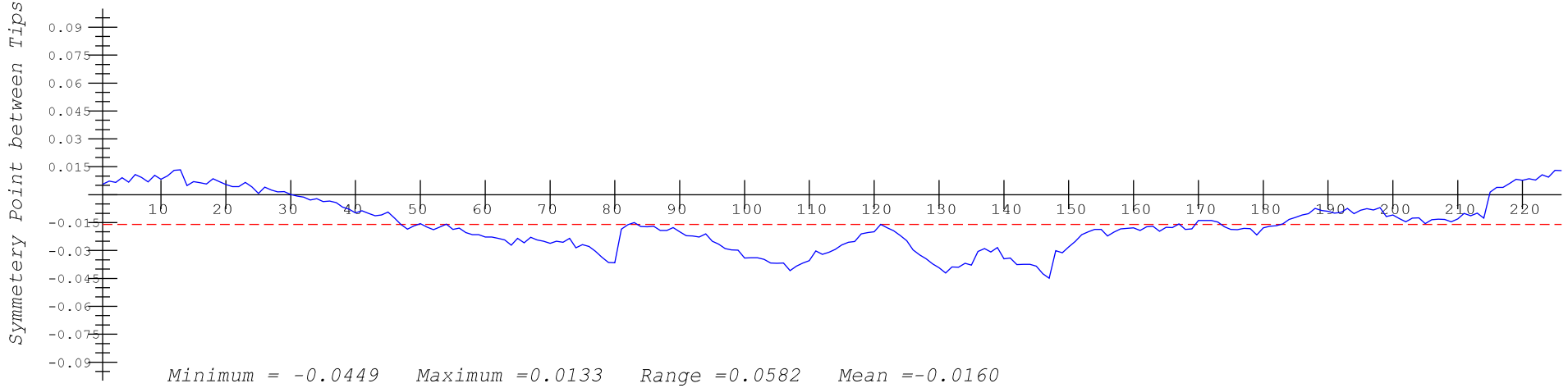
SLAC LCLS-MMF LEITZ CMM	Undulator Pole Tip Location Post Magnetic Alignment	DATE:30-JUN-2008 UNDULATOR # 31 DATASET # 0002 PROGRAM VERSION 2.7



Minimum = 6.8714 Maximum =6.9871 Range =0.1157

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

in mm

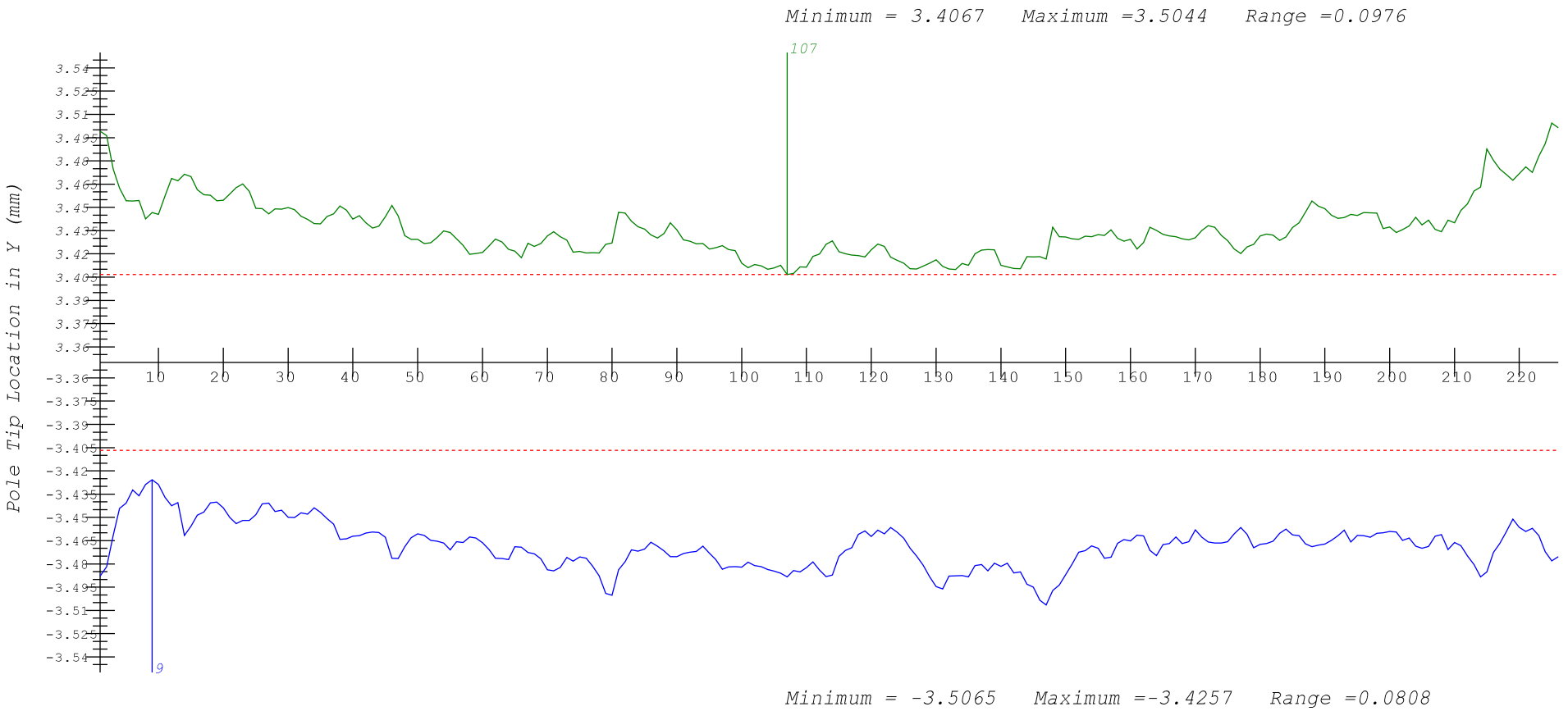


Minimum = -0.0449 Maximum =0.0133 Range =0.0582 Mean =-0.0160

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:30-JUN-2008* *UNDULATOR # 31* *DATASET # 0002* *PROGRAM VERSION 2.7*

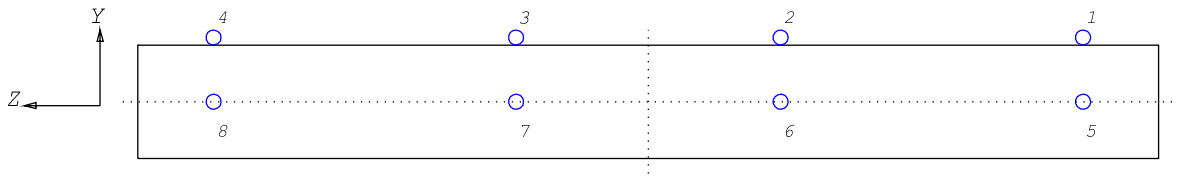
Maximum Chamber Gap = 6.8135



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:30-JUN-2008* *UNDULATOR # 31* *DATASET # 0002* *PROGRAM VERSION 2.7*

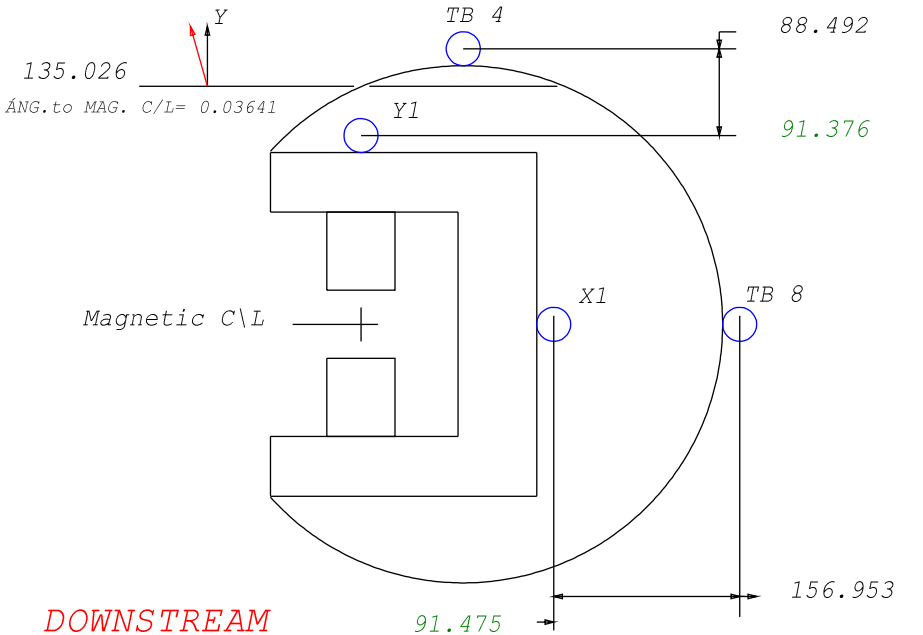


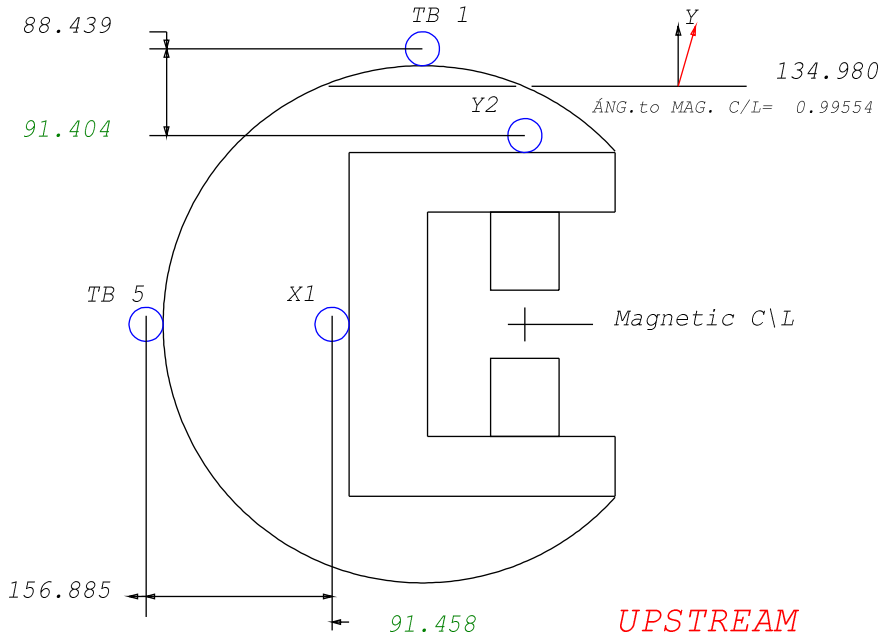
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.0473	179.8435	-1558.284
2	0.1999	179.7694	-584.7577
3	0.2492	179.7330	591.3333
4	0.2876	179.8682	1562.1989
5	248.3425	0.0324	-1558.362
6	248.3918	0.0538	-584.7484
7	248.4410	0.0190	591.3687
8	248.4279	0.0470	1562.1986

	C\L Offset	Length
Top Magnetic Structure	-0.022	3381.156
Bottom Magnetic Structure	0.022	3381.102
Strongback	0.298	3400.007

Dimensions in mm Angles in mrad





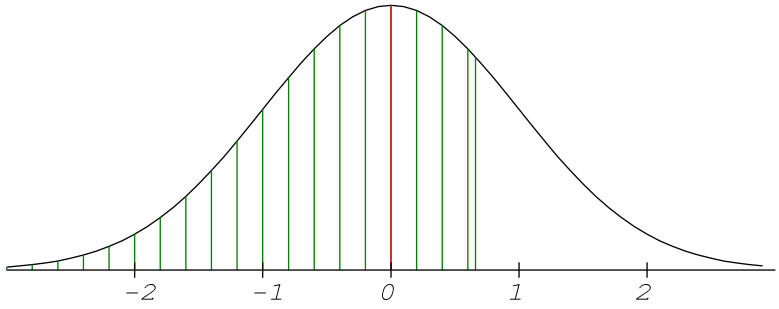
SLAC
LCLS-MMF
LEITZ CMM

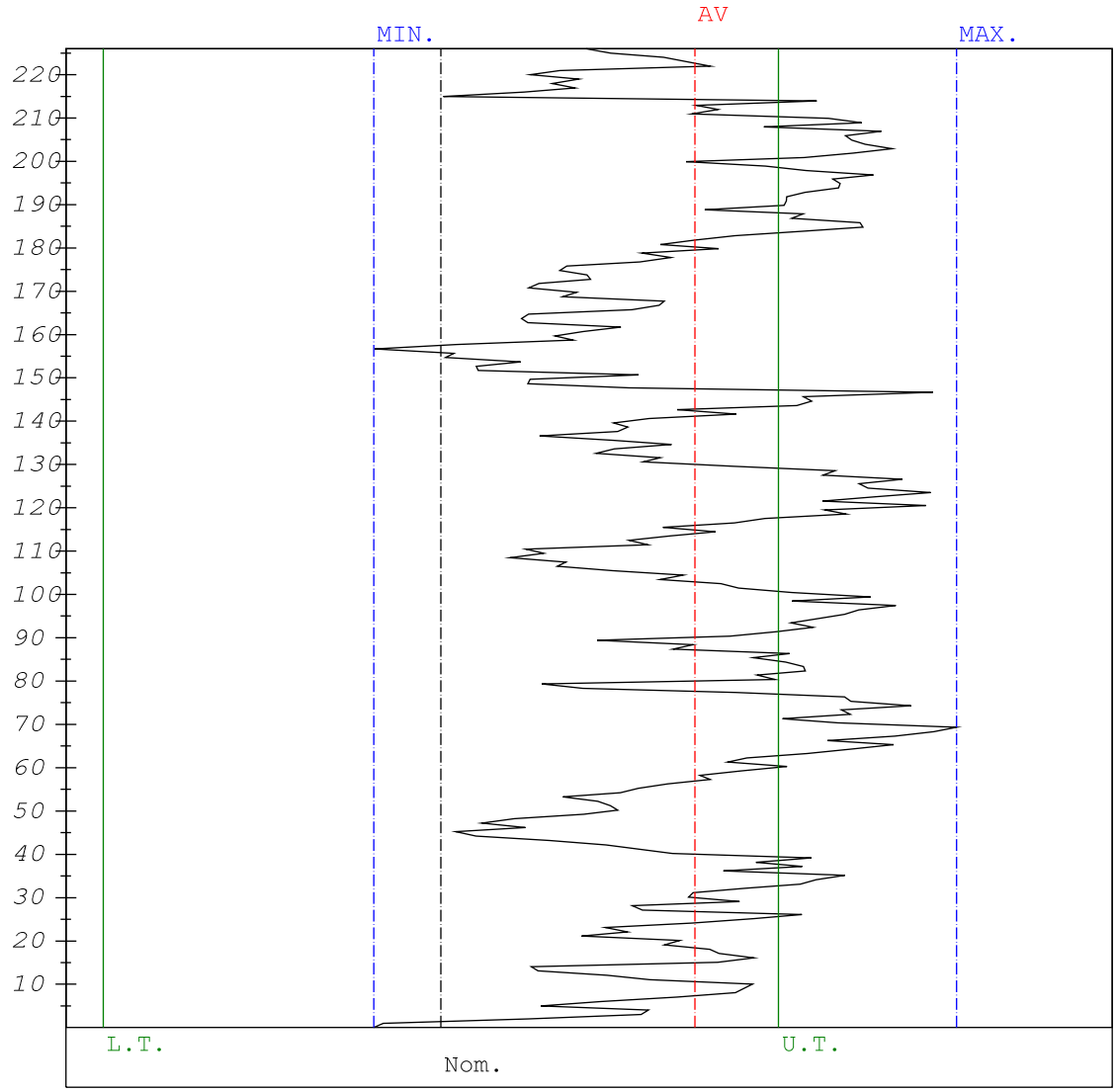
Undulator Dimensional Fiducialization
Post Magnetic Alignment

DATE:30-JUN-2008

UNDULATOR # 31
DATASET # 0002

PROGRAM VERSION 2.7





Nominal : 4.5000	Averag :4.8762	Cent.-Dev. :0.3762
Up. Tol. :0.5	Maximum : 5.2637	U.Tol.Ex. > : 25.5 %
Low.Tol. :-0.5	Minimum : 4.4005	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.1875	In Tolerance: 74.5 %
Outlier : 0	Distribution : NOR	Dimension : mrad

SLAC LCLS-MMF LEITZ CMM	Statistical Evaluation Pole Tip Gap Angle *Post Magnetic Alignment*	*DATE:30-JUN-2008* *UNDULATOR # 31* *DATASET # 0002* *PROGRAM VERSION 2.7*