Included Angle Between Tips

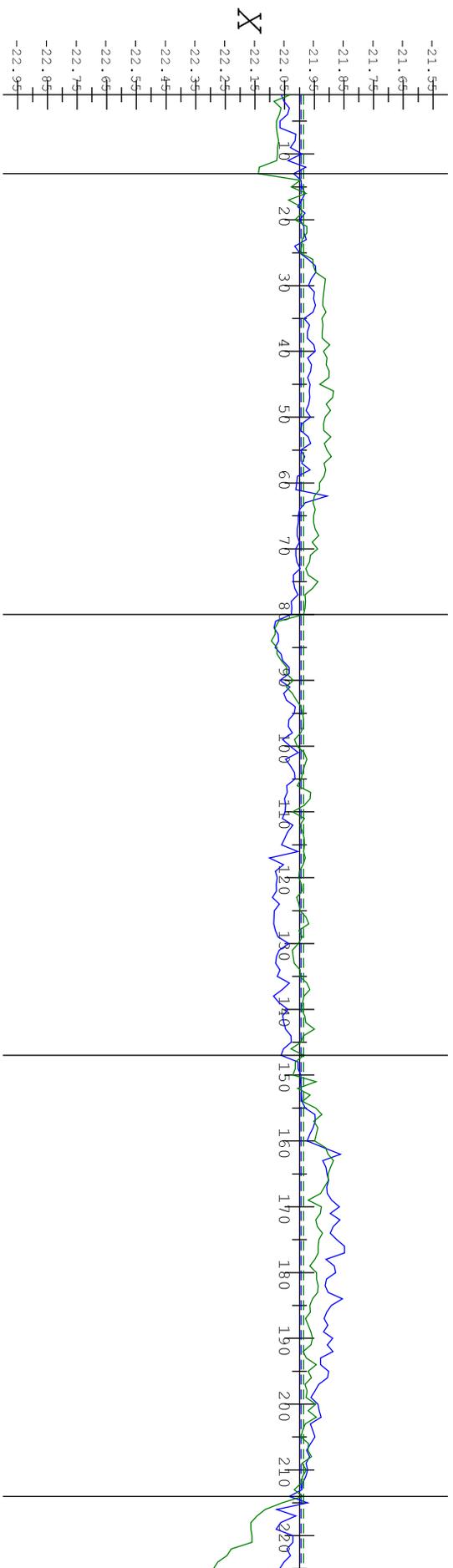Angle of Symmetry Axis to ZX Plane

(mrad)

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:14-NOV-2007
UNDULATOR # 13
DATASET # 0004
PROGRAM VERSION 2.4
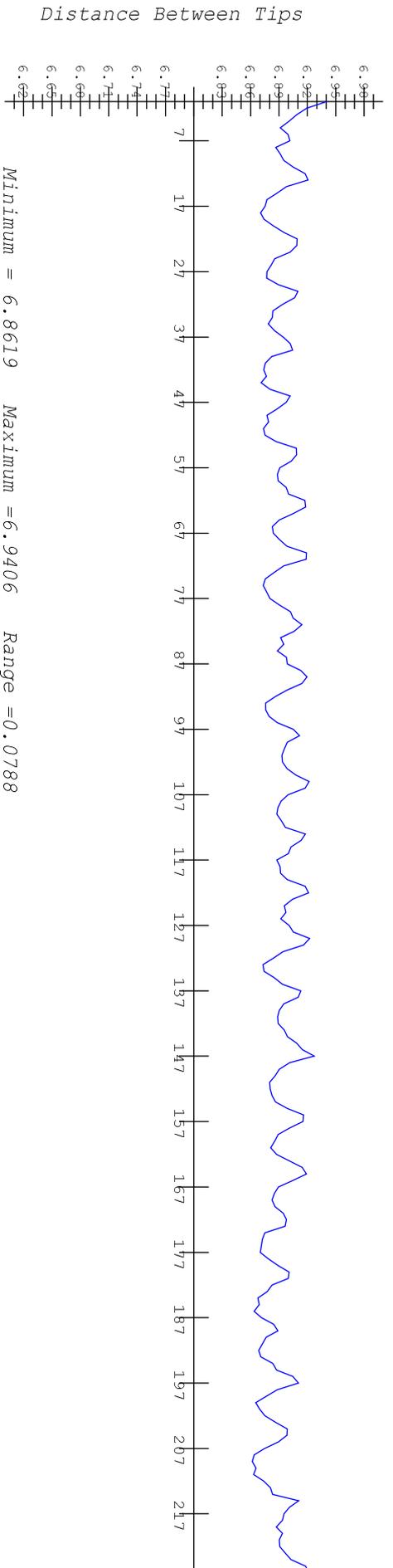
Pole Tip Number ------------->

X

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 =   -21.987
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 =   -21.995
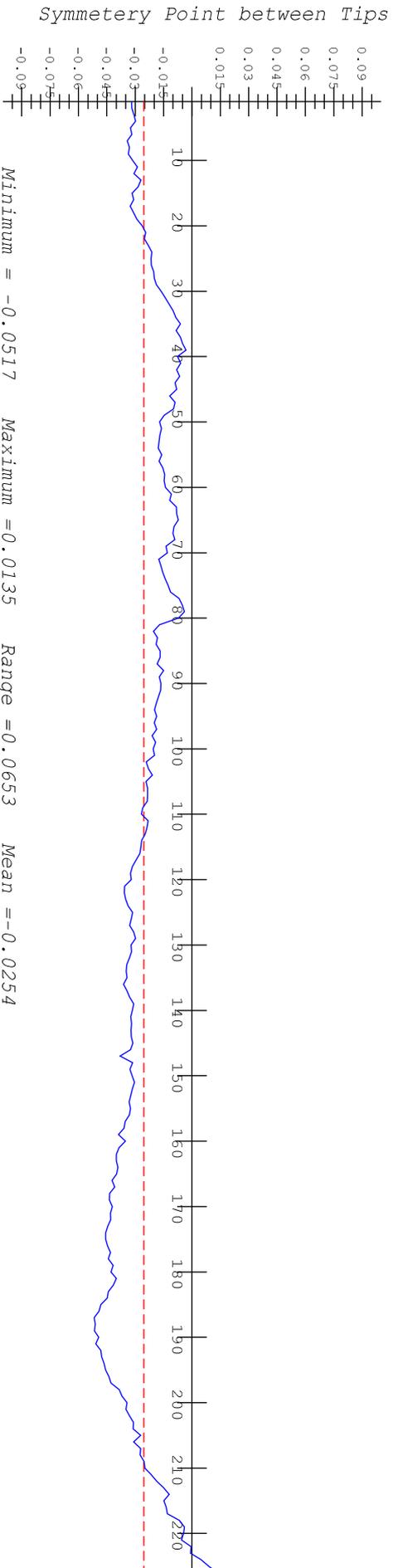
SLAC
LCLS-MMF
LEITZ CMM

Undulator Pole Tip Location
Post Magnetic Alignment

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UNDULATOR # 13
DATASET   # 0004
PROGRAM VERSION 2.4

Distance Between Tips

in mm

Minimum = 6.8619   Maximum =6.9406   Range =0.0788

Symmetery Point between Tips

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

Minimum = -0.0517   Maximum =0.0135   Range =0.0653   Mean =-0.0254

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
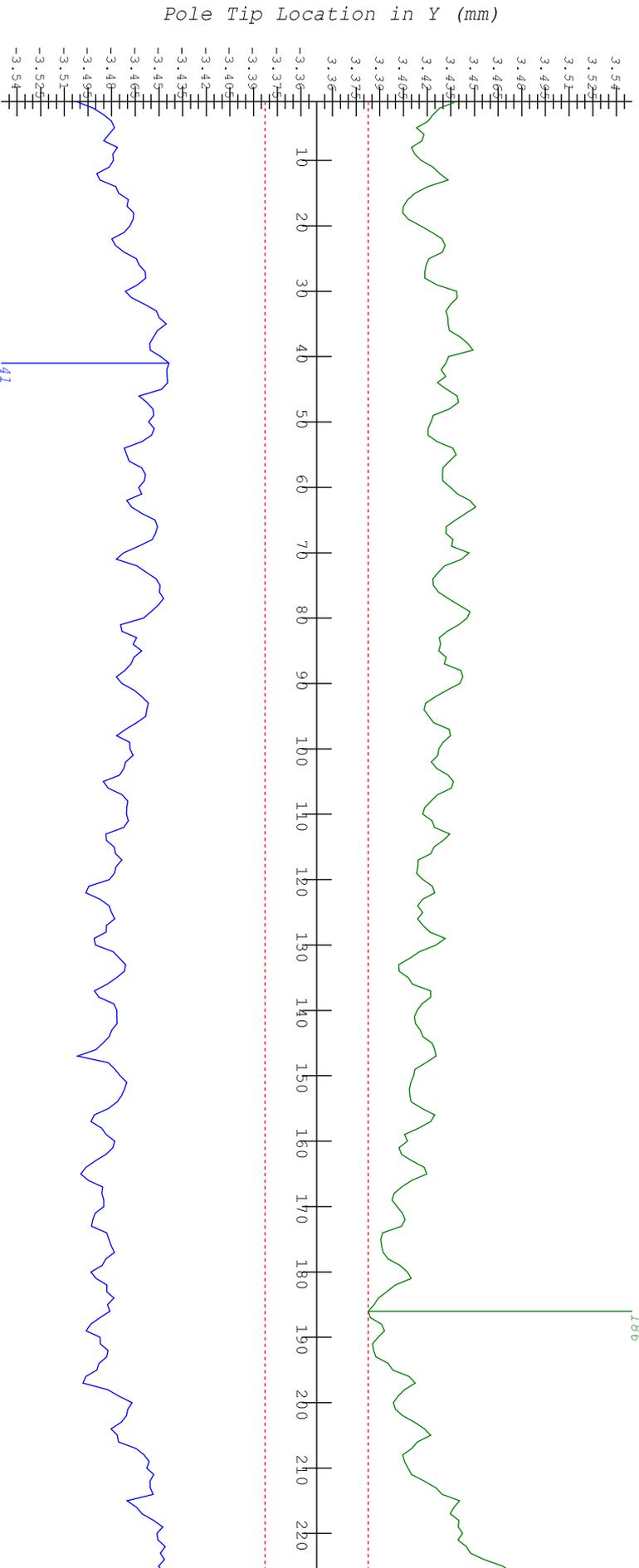
SLAC
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LEITZ CMM

Undulator Pole Tip Location
Post Magnetic Alignment

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Maximum Chamber Gap = 6.7654

Pole Tip Location in Y (mm)

Minimum = 3.3827   Maximum =3.4741   Range =0.0914

Minimum = -3.5023   Maximum =-3.4437   Range =0.0586

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

Undulator Pole Tip Location
Post Magnetic Alignment

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
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Undulator Dimensional Fiducialization
Post Magnetic Alignment

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DATASET   # 0004
PROGRAM VERSION 2.4

DOWNSTREAM

UPSTREAM

Z

Y

Top Magnetic Structure
Bottom Magnetic Structure
Strongback

	C\L Offset	Length
	−0.096	3381.060
	0.096	3381.283
	0.268	3399.779

Dimensions in mm   Angles in mrad

DOWNSTREAM view

134.991

ÁNG.to MAG. C\L= 0.11849

Magnetic C\L

Y1

TB 4

X1

TB 8

91.625

91.461

88.511

156.850

UPSTREAM view

157.061

91.367
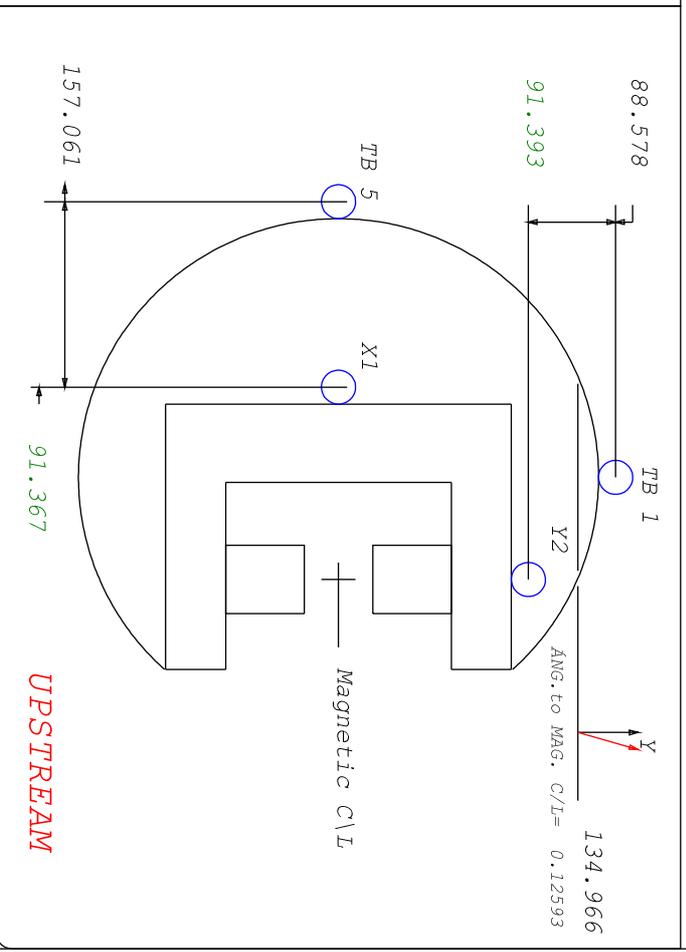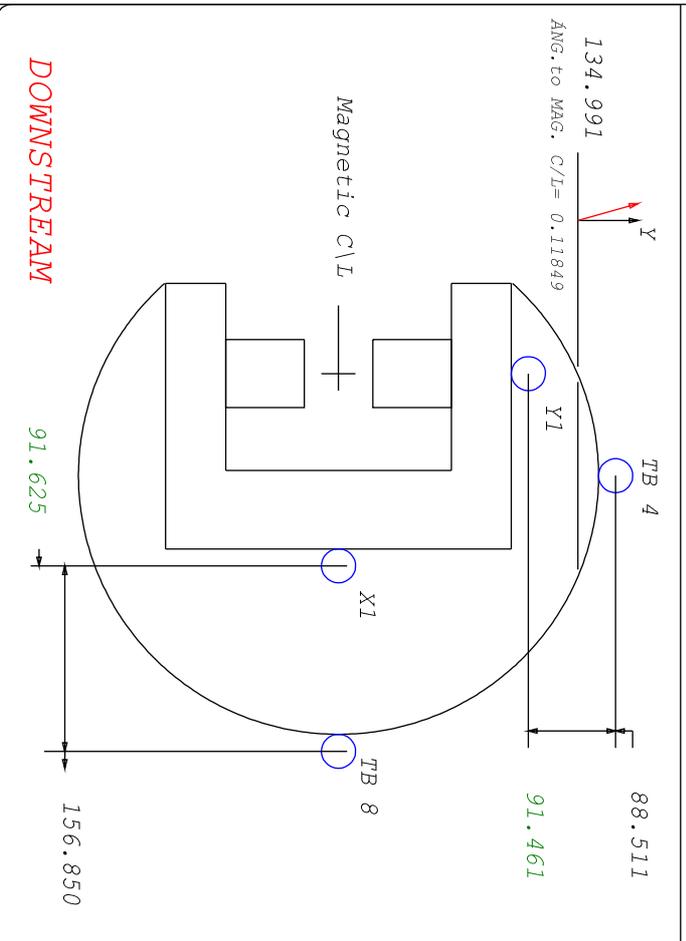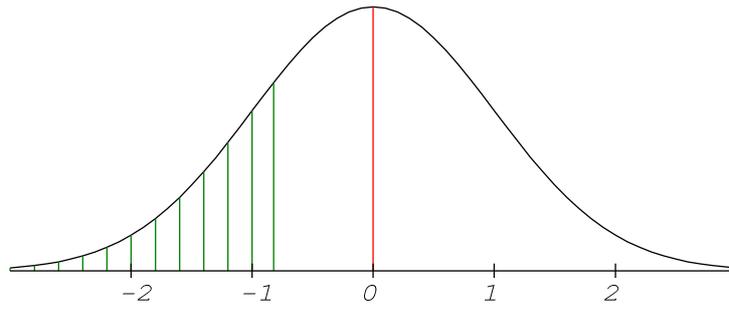
91.393

88.578

TB 5

X1

TB 1

Y2

Magnetic C\L

ÁNG.to MAG. C\L= 0.12593

134.966

TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.1036	179.9714	−1558.285
2	0.2494	179.9954	−584.4558
3	0.1473	179.8823	591.3069
4	0.1184	179.9720	1562.0775
5	0.4277	0.0353	−1558.343
6	0.3905	−0.0508	−584.6011
7	0.4164	−0.0450	591.3314
8	0.4751	−0.0905	1562.0824

Nominal : 4.5000	Averag :5.1892	Cent.-Dev. :0.6892
Up. Tol. :0.5	Maximum : 5.6315	U.Tol.Ex. > : 79.4 %
Low.Tol. :-0.5	Minimum : 4.3478	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2302	In Tolerance: 20.6 %
Outlier : 0	Distribution : NOR	Dimension : mrad