

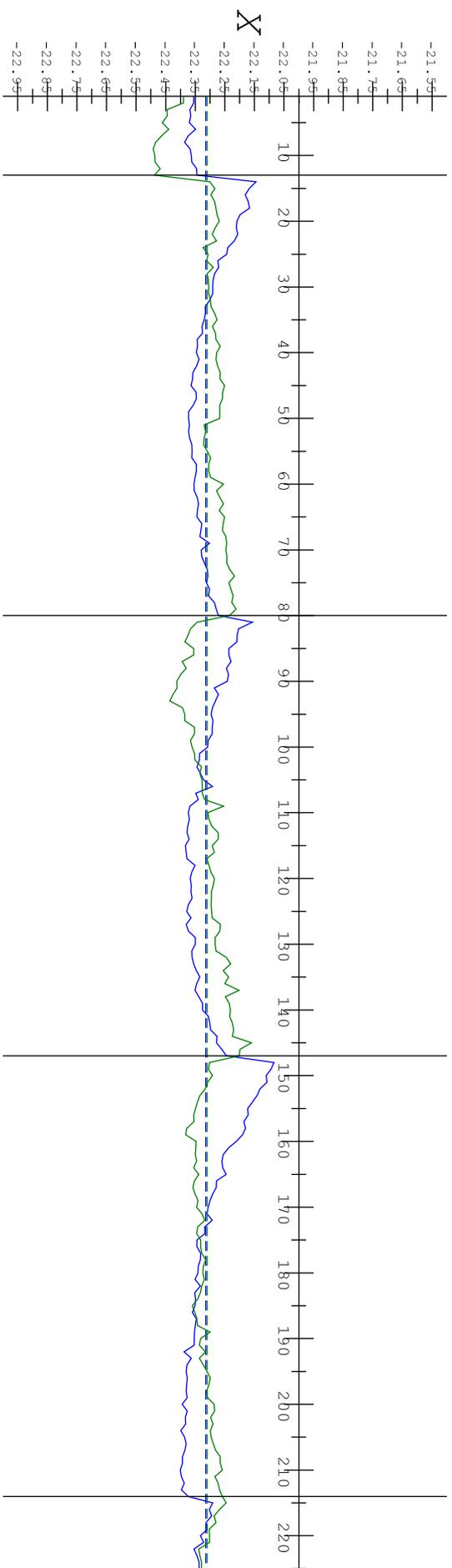
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips  
 Included Angle is the angle between the Upper and Lower Pole Tips



Undulator Pole Tip Angles  
 Post Magnetic Alignment

DATE: 05-JUN-2009  
 UNDUULATOR # 20  
 DATASET # 0005  
 PROGRAM VERSION 2.9

# 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 = -22.310

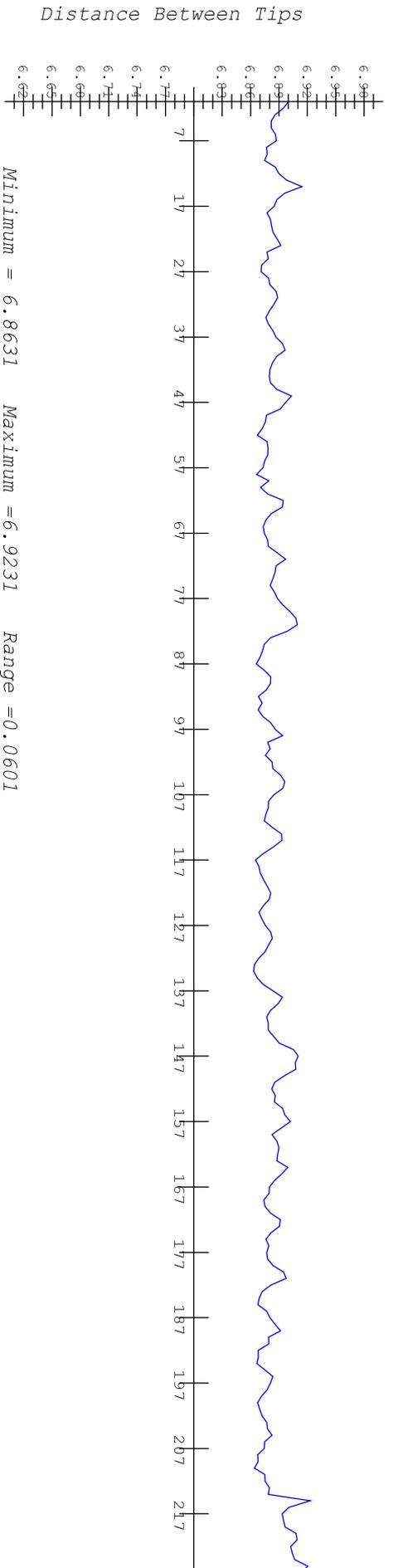
Blue Solid = Point on front face of Lower Pole Tip 10mm below Magnetic C/L

Blue Dash = Mean value of all Lower Pole Tips 10mm below Magnetic C/L Mean value Lower Pole Tips = -22.314



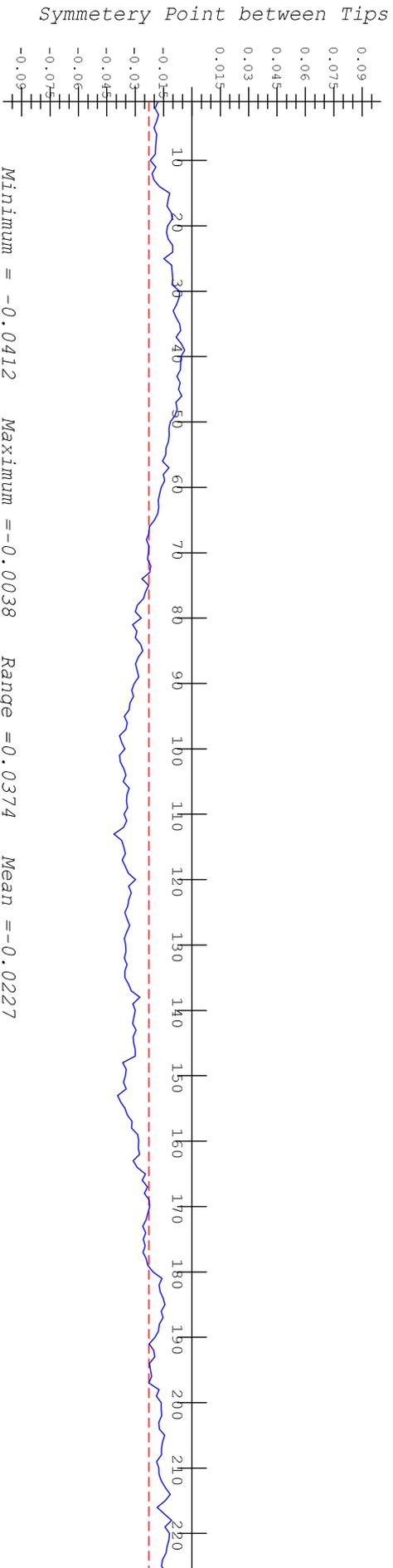
## Undulator Pole Tip Location Post Magnetic Alignment

DATE: 05-JUN-2009  
UNDULATOR # 20  
DATASET # 0005  
PROGRAM VERSION 2.9



in mm

Pole Tip Number ----->



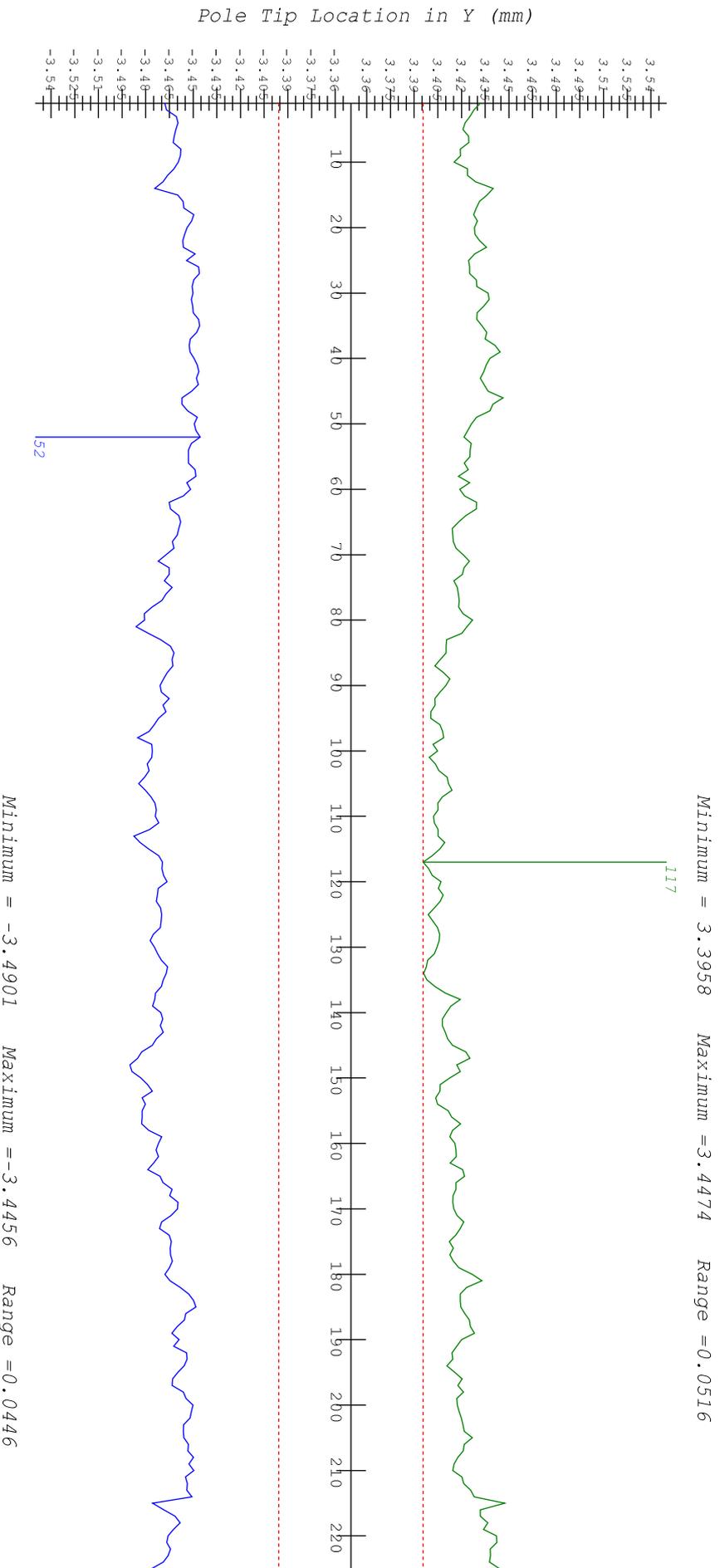
Symmetry Point is the symmetry point between the Upper and Lower Pole Tips were they intersect a YZ plane at the Magnetic C/L  
 Broken Red line is Mean Value of Symmetry Points  
 Distance Between Tips is the distance between the Upper and Lower Pole Tips were they intersect a YZ plane at the Magnetic C/L



Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 05-JUN-2009  
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Maximum Chamber Gap = 6.7915



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)



Undulator Pole Tip Location  
Post Magnetic Alignment

DATE: 05-JUN-2009  
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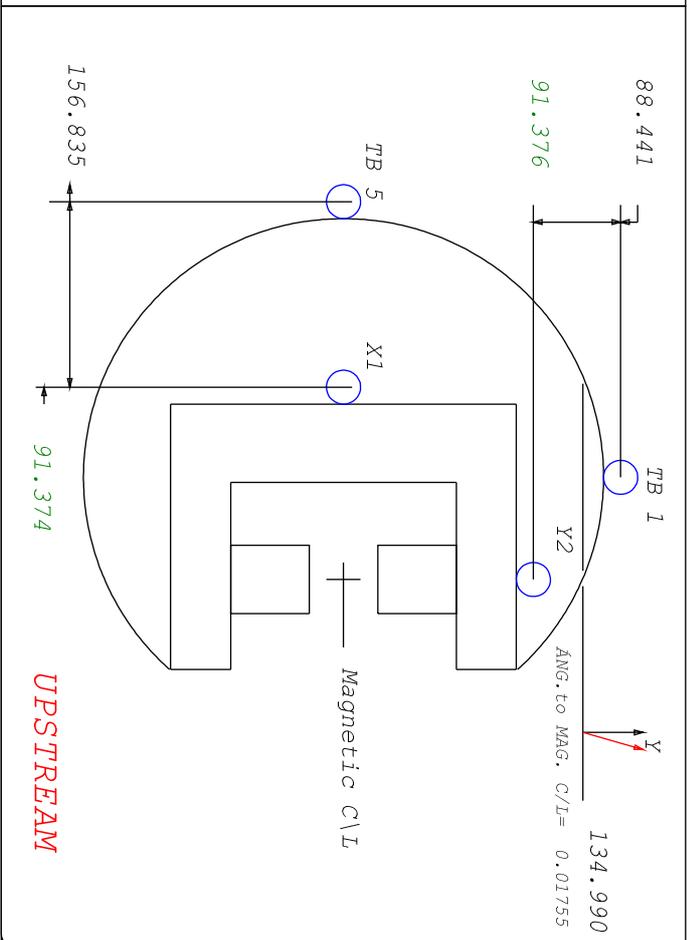
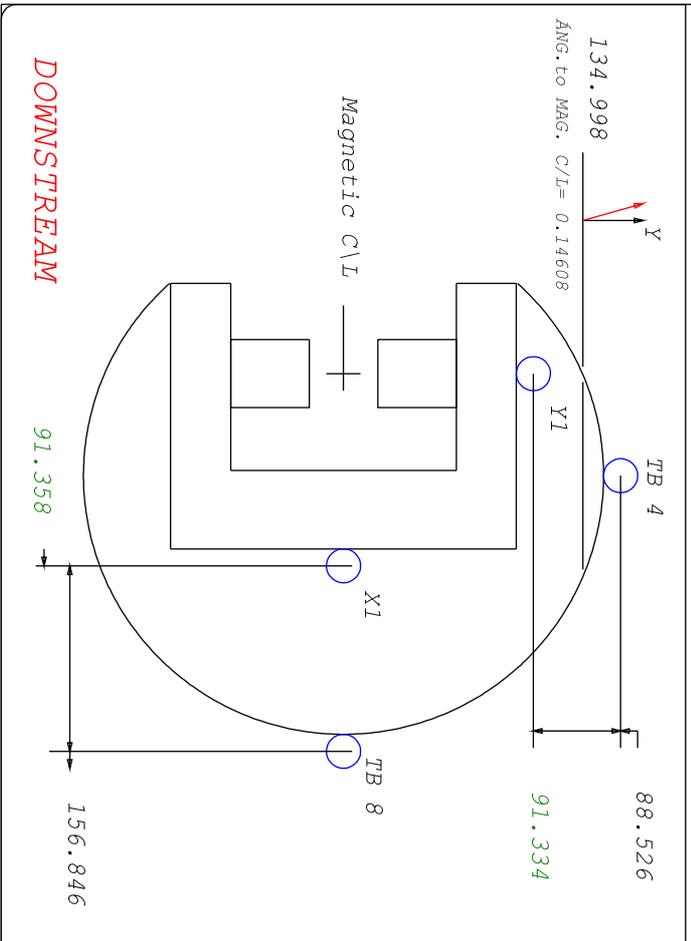
TOOLING BALL LOCATIONS

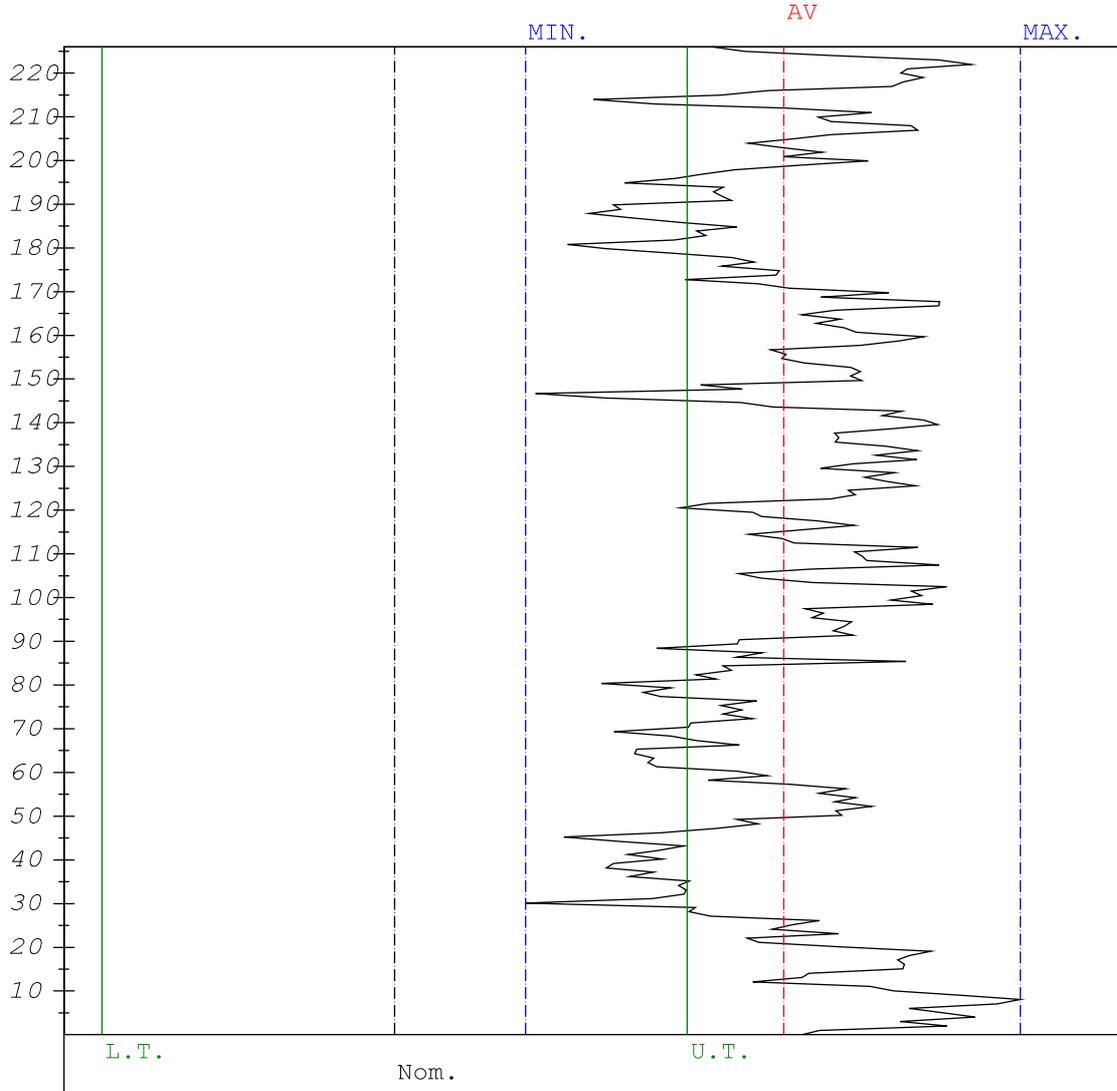
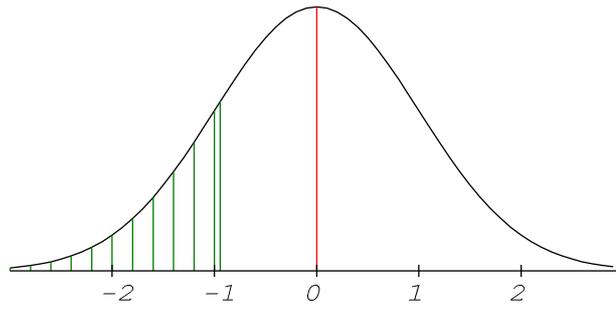
NUM.	X	Y	Z
1	-0.1741	179.8166	-1558.371
2	0.0090	179.7268	-584.7400
3	0.0112	179.7474	591.2035
4	0.0765	179.8598	1562.1150
5	248.2086	0.0888	-1558.298
6	248.2587	0.0255	-584.7569
7	248.2272	0.0923	591.3960
8	248.2038	0.0592	1562.2151

	C/L Offset	Length
Top Magnetic Structure	-0.052	3380.934
Bottom Magnetic Structure	0.052	3381.122
Strongback	0.317	3400.010

Dimensions in mm

Angles in mrad





Nominal : 4.5000	Averag : 5.1646	Cent.-Dev. : 0.6646
Up. Tol. : 0.5	Maximum : 5.5686	U.Tol.Ex. > : 82.7 %
Low.Tol. : -0.5	Minimum : 4.7237	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.1746	In Tolerance: 17.3 %
Outlier : 0	Distribution : NOR	Dimension : mrad



Statistical Evaluation  
Pole Tip Gap Angle  
Post Magnetic Alignment

DATE: 05-JUN-2009  
UNDULATOR # 20  
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PROGRAM VERSION 2.9