

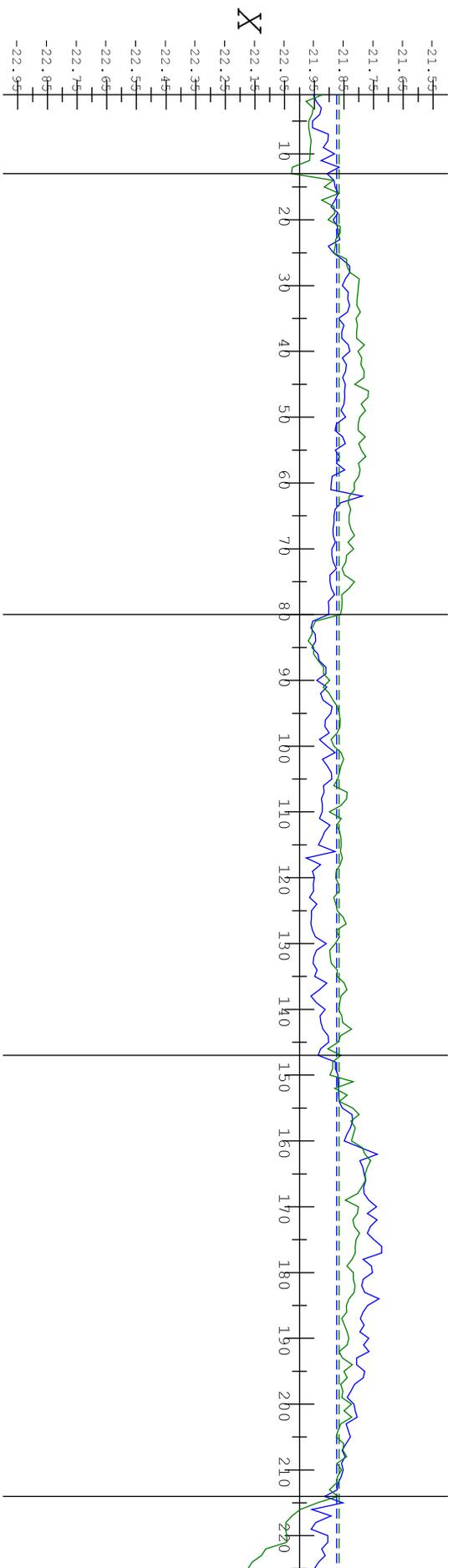
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips  
 Included Angle is the angle between the Upper and Lower Pole Tips



Undulator Pole Tip Angles  
 Post Magnetic Alignment

DATE: 17-APR-2009  
 UNDULATOR #13  
 DATASET # 0020  
 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 = -21.866

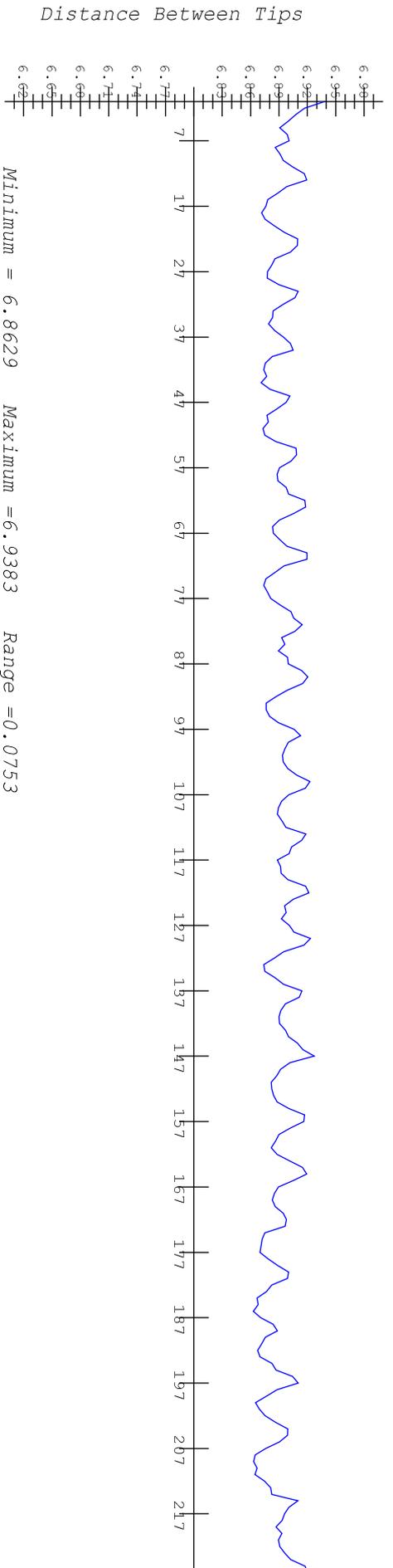
Blue Solid = Point on front face of Lower Pole Tip 10mm below Magnetic C/L

Blue Dash = Mean value of all Lower Pole Tips 10mm below Magnetic C/L Mean value Lower Pole Tips = -21.874



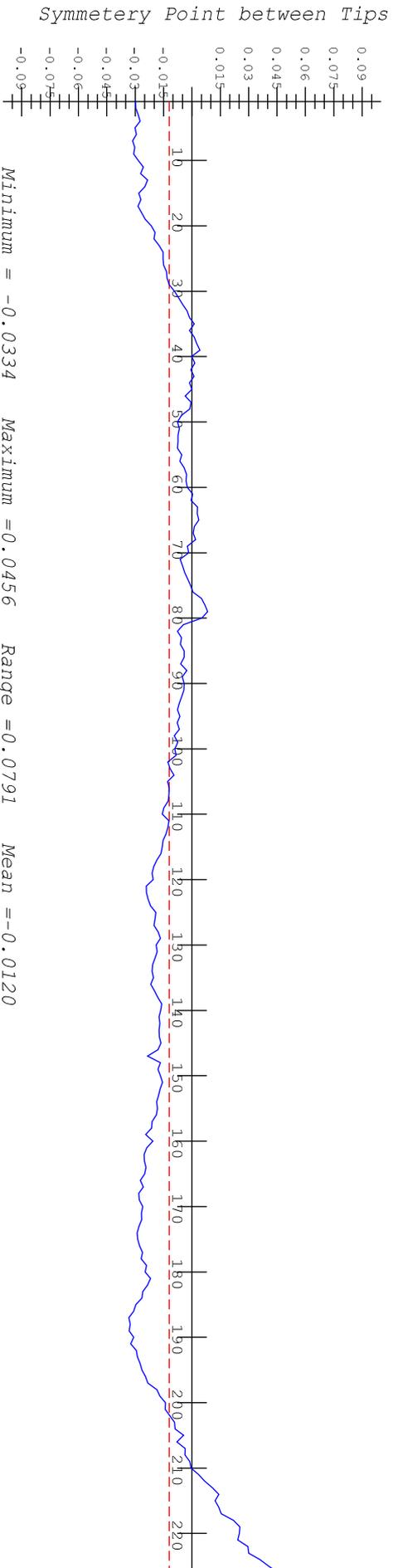
## Undulator Pole Tip Location Post Magnetic Alignment

DATE: 17-APR-2009  
UNDULATOR #13  
DATASET # 0020  
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

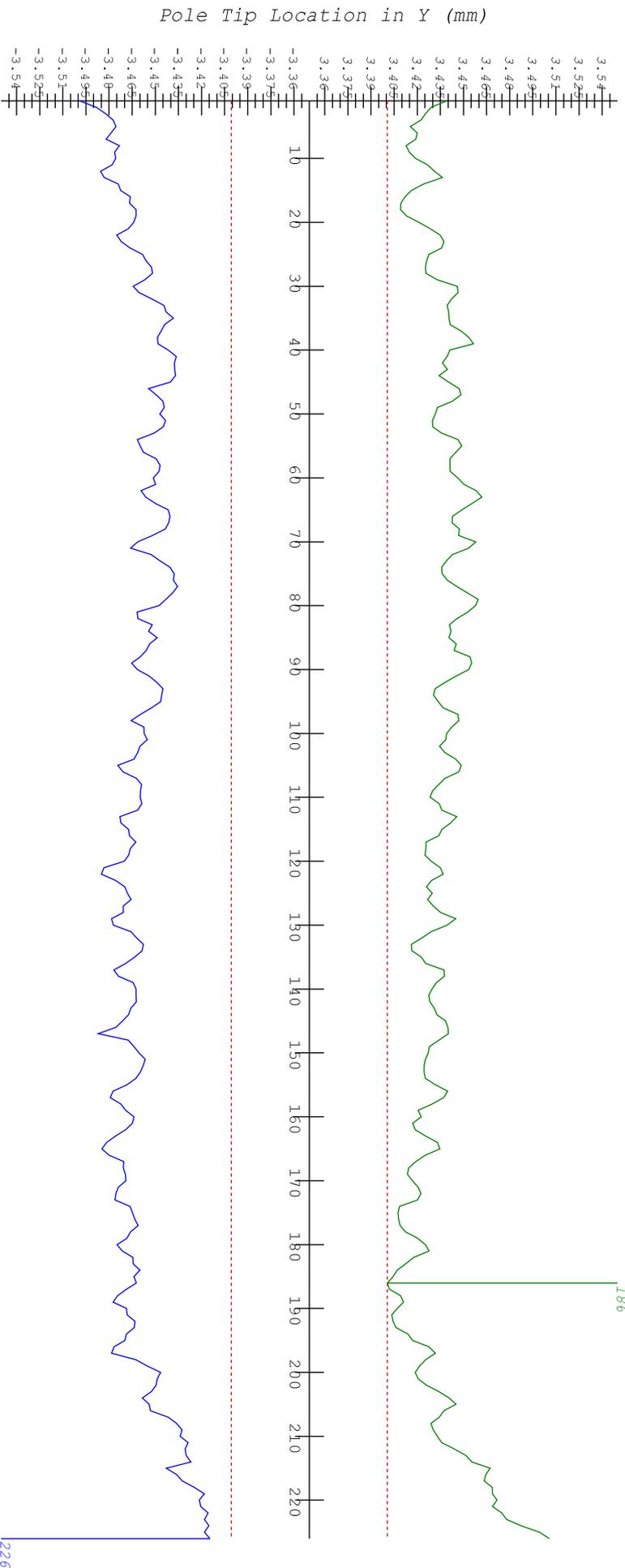


Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 17-APR-2009  
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Maximum Chamber Gap = 6.8013

Minimum = 3.4006 Maximum = 3.5058 Range = 0.1051



Minimum = -3.4991 Maximum = -3.4145 Range = 0.0846

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: 17-APR-2009  
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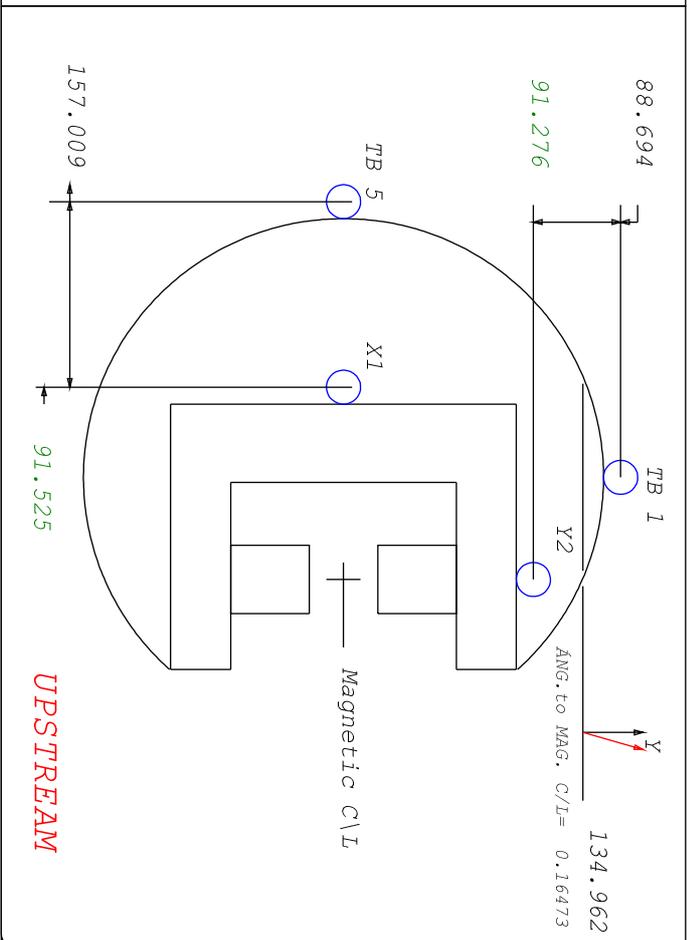
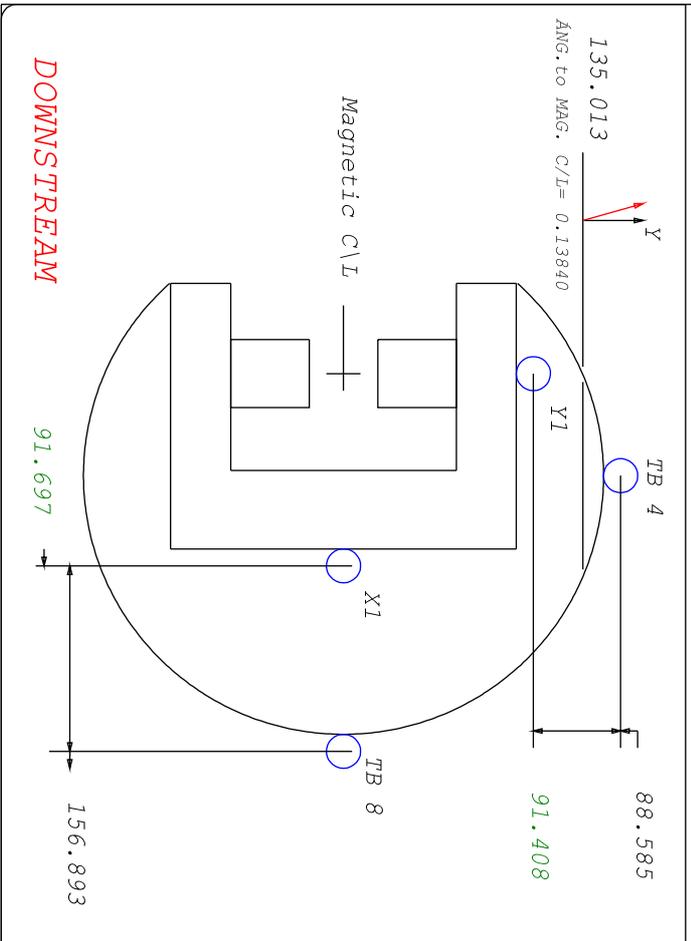
TOOLING BALL LOCATIONS

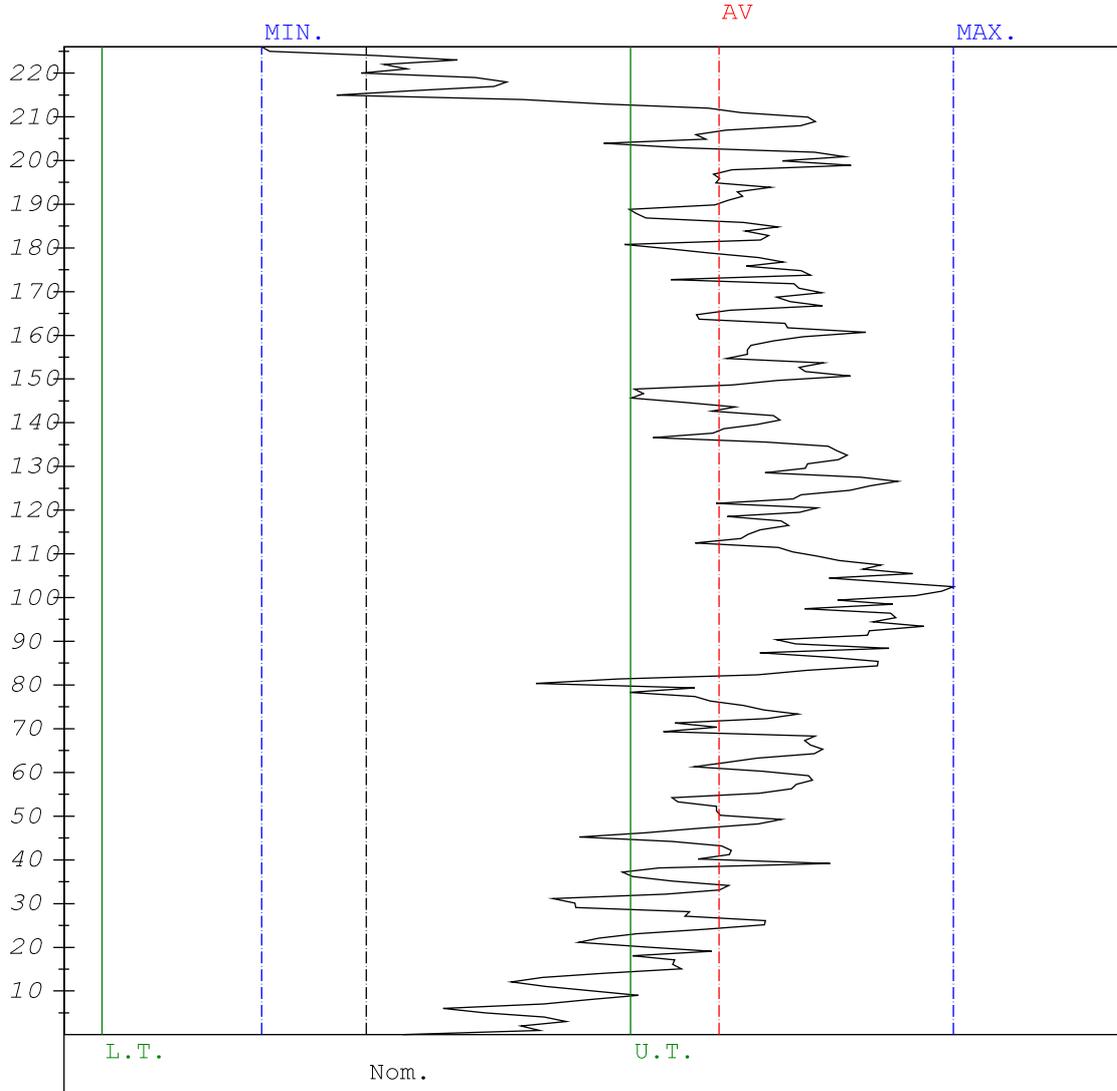
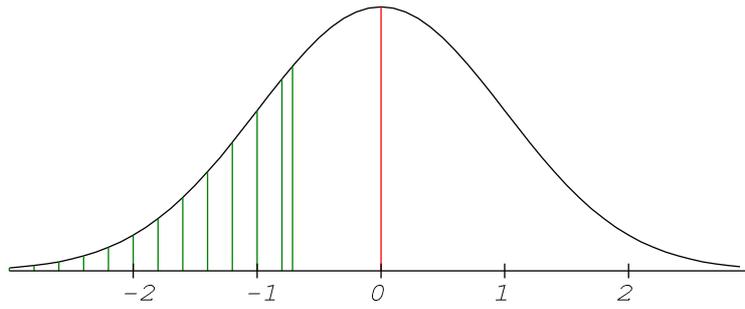
NUM.	X	Y	Z
1	0.2064	179.9703	-1558.289
2	0.3617	180.0000	-584.4557
3	0.2711	179.8915	591.3037
4	0.2359	179.9930	1562.0765
5	248.5336	0.0483	-1558.350
6	248.5070	-0.0394	-584.6057
7	248.5372	0.0342	591.3232
8	248.5896	-0.0634	1562.0857

	C/L Offset	Length
Top Magnetic Structure	-0.096	3381.059
Bottom Magnetic Structure	0.096	3381.283
Strongback	0.249	3399.787

Dimensions in mm

Angles in mrad





Nominal : 4.5000	Averag : 5.1671	Cent.-Dev. : 0.6671
Up. Tol. : 0.5	Maximum : 5.6109	U.Tol.Ex. > : 76.2 %
Low.Tol. : -0.5	Minimum : 4.3023	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2342	In Tolerance: 23.8 %
Outlier : 0	Distribution : NOR	Dimension : mrad



Statistical Evaluation  
 Pole Tip Gap Angle  
 Post Magnetic Alignment

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