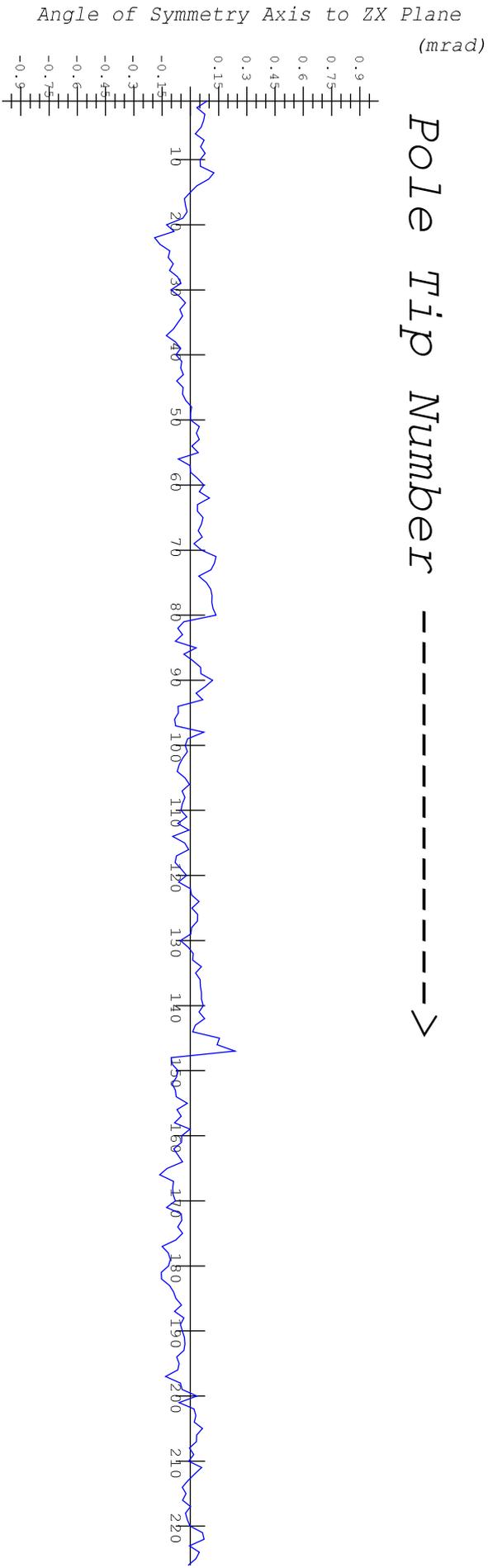


Pole Tip Number ----->



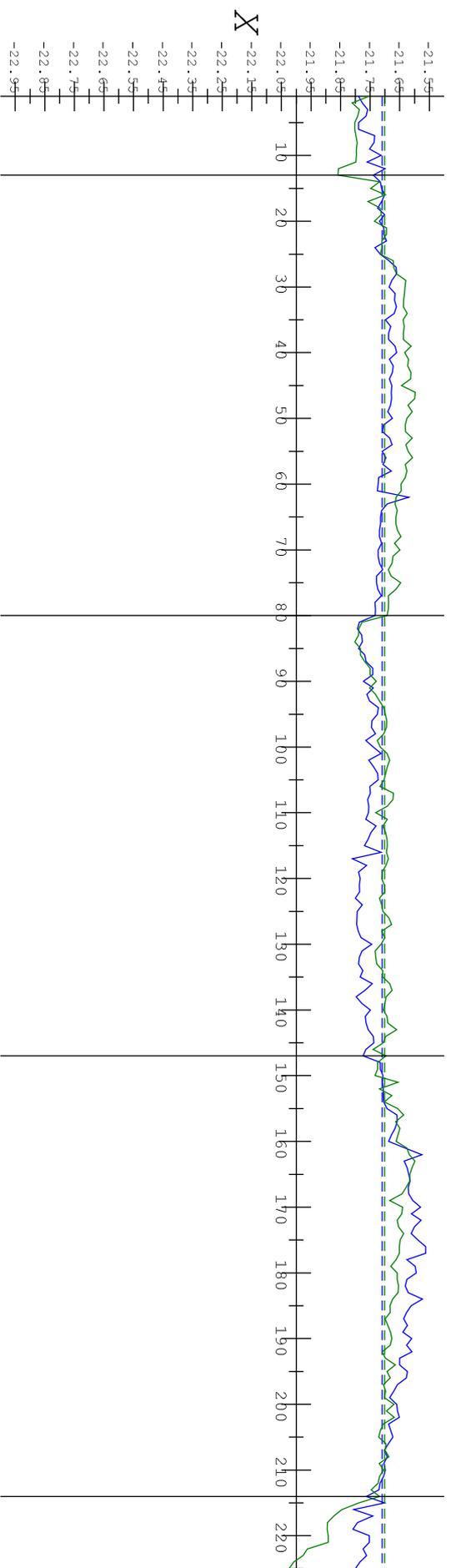
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips  
 Included Angle is the angle between the Upper and Lower Pole Tips



Undulator Pole Tip Angles  
 Post Magnetic Alignment

DATE: 11-JUN-2010  
 UNDUULATOR # 13  
 DATASET # 30  
 PROGRAM VERSION 2.9

# Pole Tip Number ----->



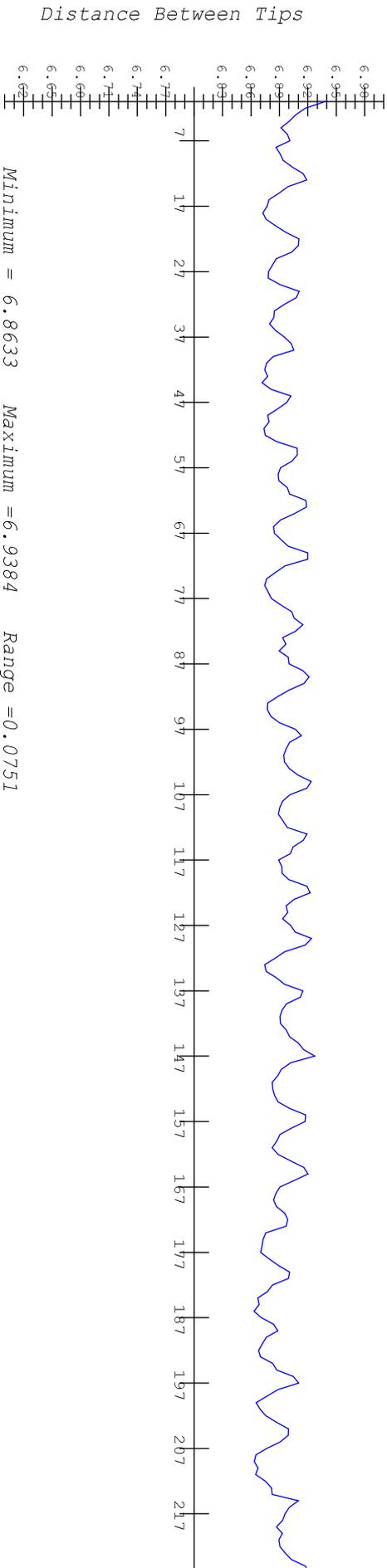
X values in mm

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 = -21.702

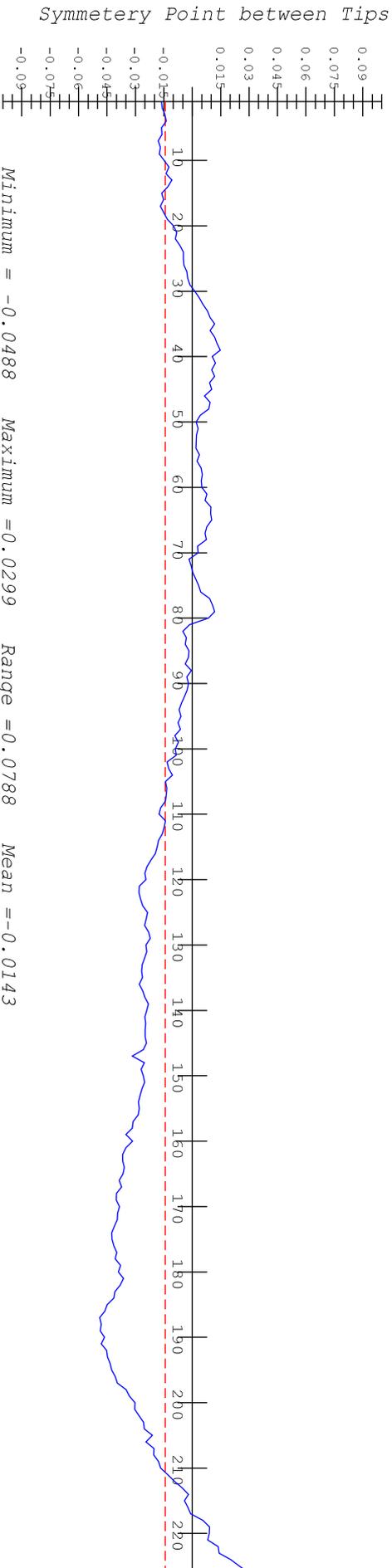
Blue Solid = Point on front face of Lower Pole Tip 10mm below Magnetic C/L

Blue Dash = Mean value of all Lower Pole Tips 10mm below Magnetic C/L Mean value Lower Pole Tips = -21.710



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

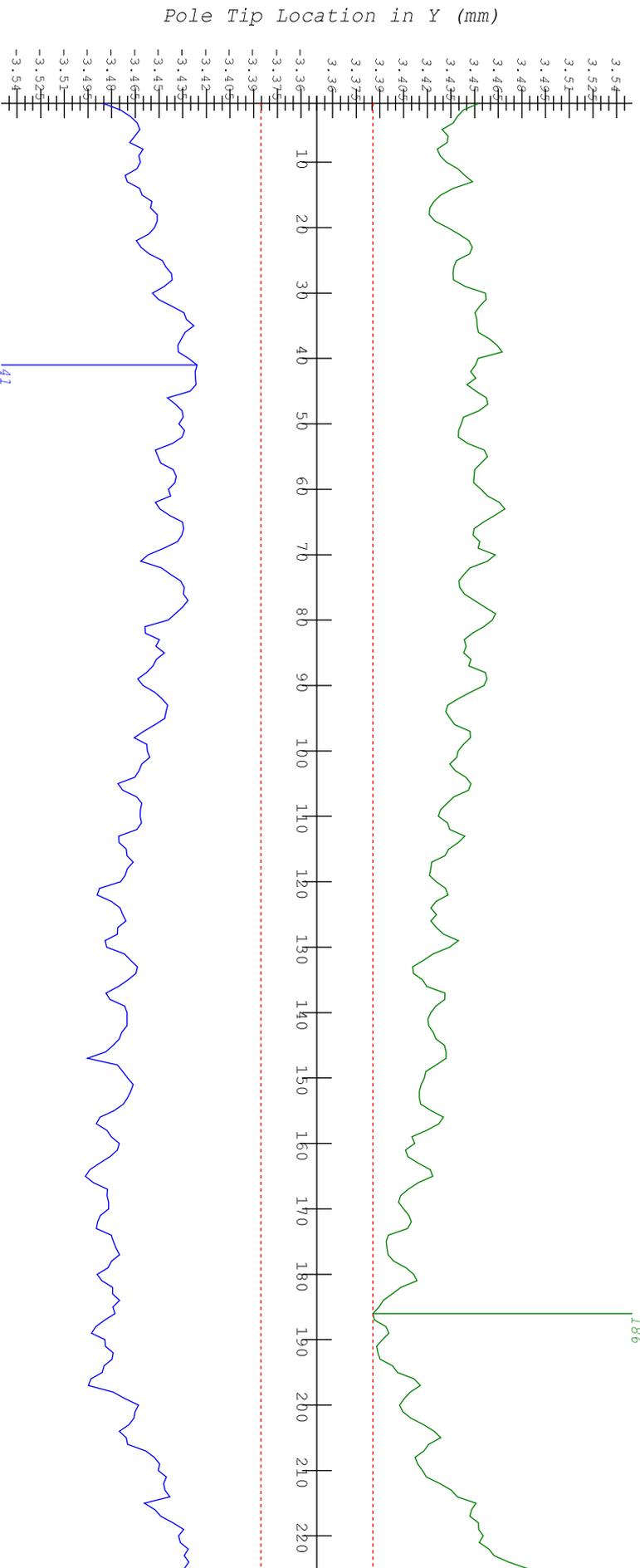


Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 11-JUN-2010  
 UNDUULATOR # 13  
 DATASET # 30  
 PROGRAM VERSION 2.9

Maximum Chamber Gap = 6.7710

Minimum = 3.3855    Maximum = 3.4900    Range = 0.1045



Minimum = -3.4967    Maximum = -3.4259    Range = 0.0708

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: 11-JUN-2010  
UNDULATOR # 13  
DATASET # 30  
PROGRAM VERSION 2.9



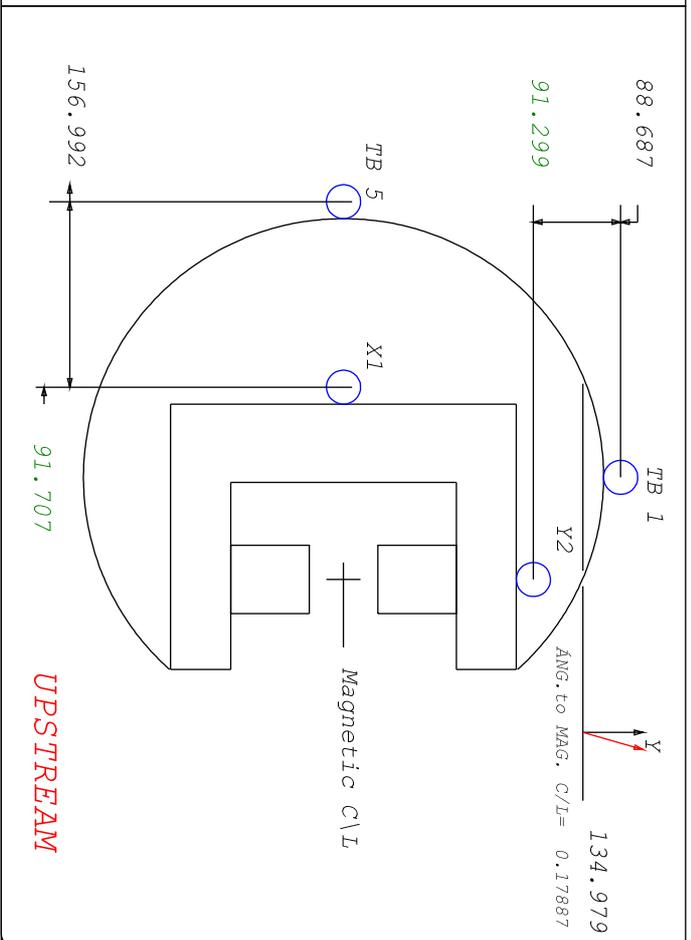
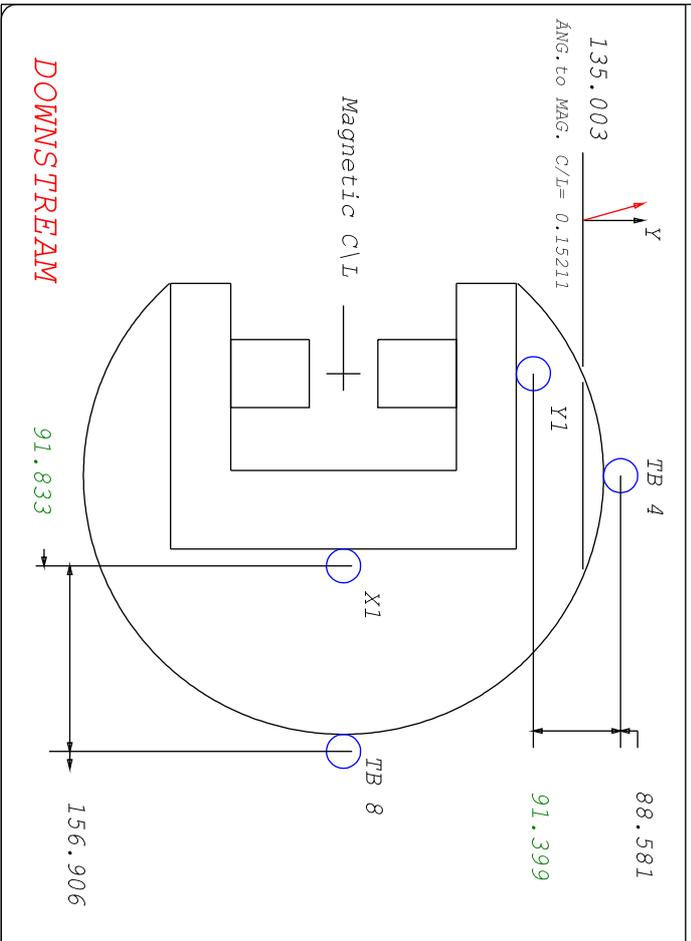
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TOOLING BALL LOCATIONS  
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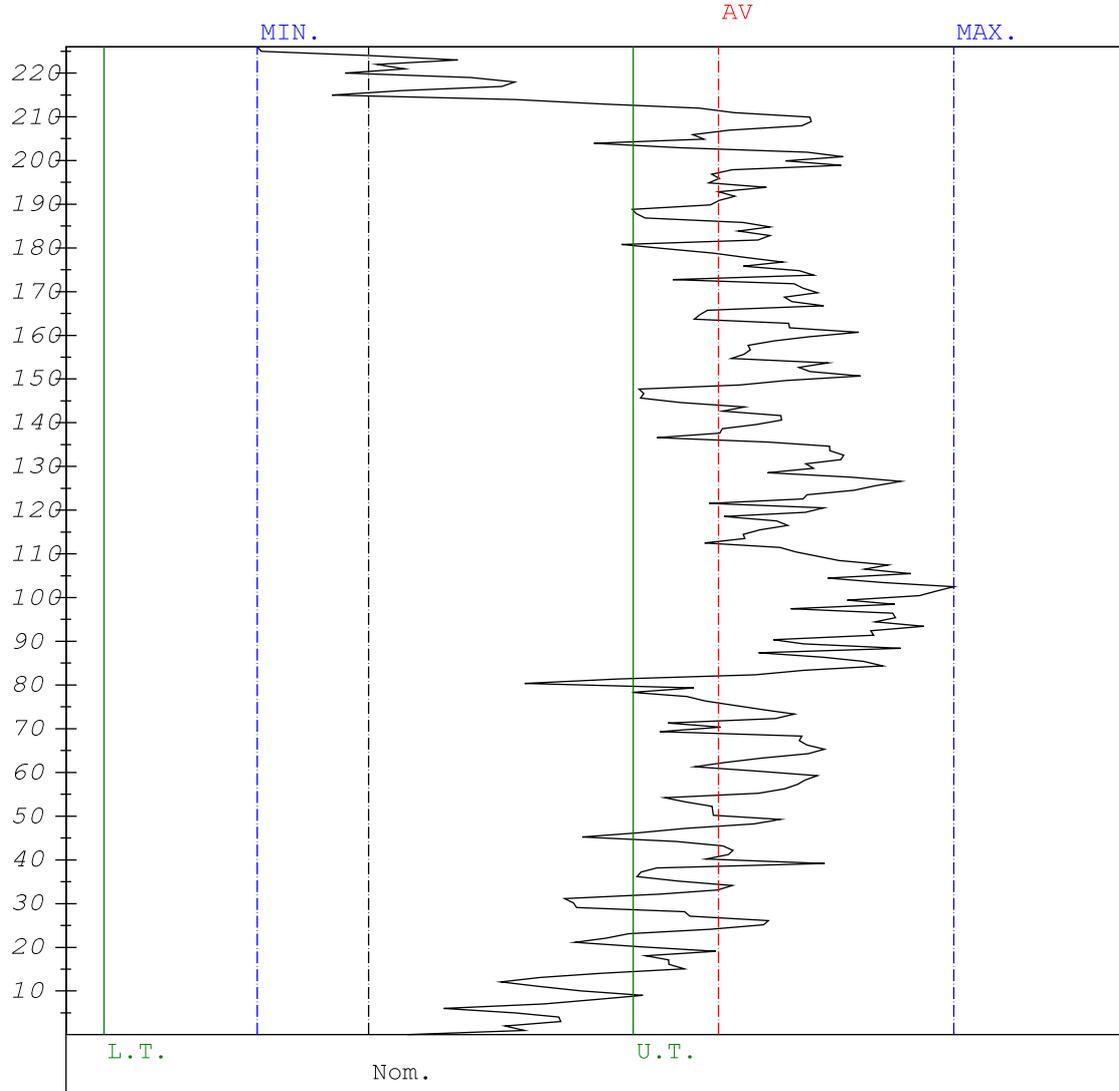
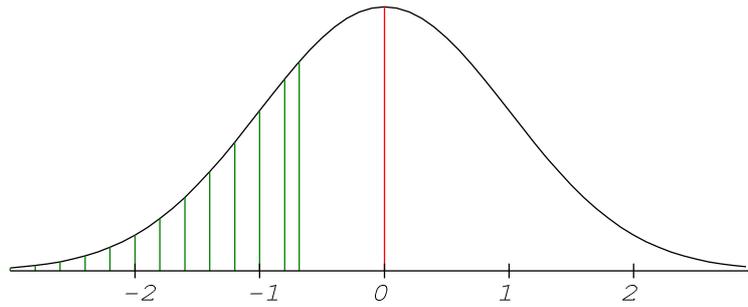
NUM.	X	Y	Z
1	0.3635	179.9856	-1558.285
2	0.5316	180.0072	-584.4540
3	0.4302	179.8854	591.3042
4	0.3779	179.9802	1562.0731
5	248.6987	0.0713	-1558.349
6	248.6743	-0.0282	-584.6001
7	248.6979	0.0312	591.3277
8	248.7393	-0.0725	1562.0873

	C/L Offset	Length
Top Magnetic Structure	-0.096	3381.050
Bottom Magnetic Structure	0.096	3381.274
Strongback	0.251	3399.774

Dimensions in mm

Angles in mrad





Nominal : 4.5000	Averag : 5.1611	Cent.-Dev. : 0.6611
Up. Tol. : 0.5	Maximum : 5.6061	U.Tol.Ex. > : 75.3 %
Low.Tol. : -0.5	Minimum : 4.2898	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2356	In Tolerance: 24.7 %
Outlier : 0	Distribution : NOR	Dimension : mrad



Statistical Evaluation  
Pole Tip Gap Angle  
Post Magnetic Alignment

DATE: 11-JUN-2010

UNDULATOR # 13  
DATASET # 30

PROGRAM VERSION 2.9