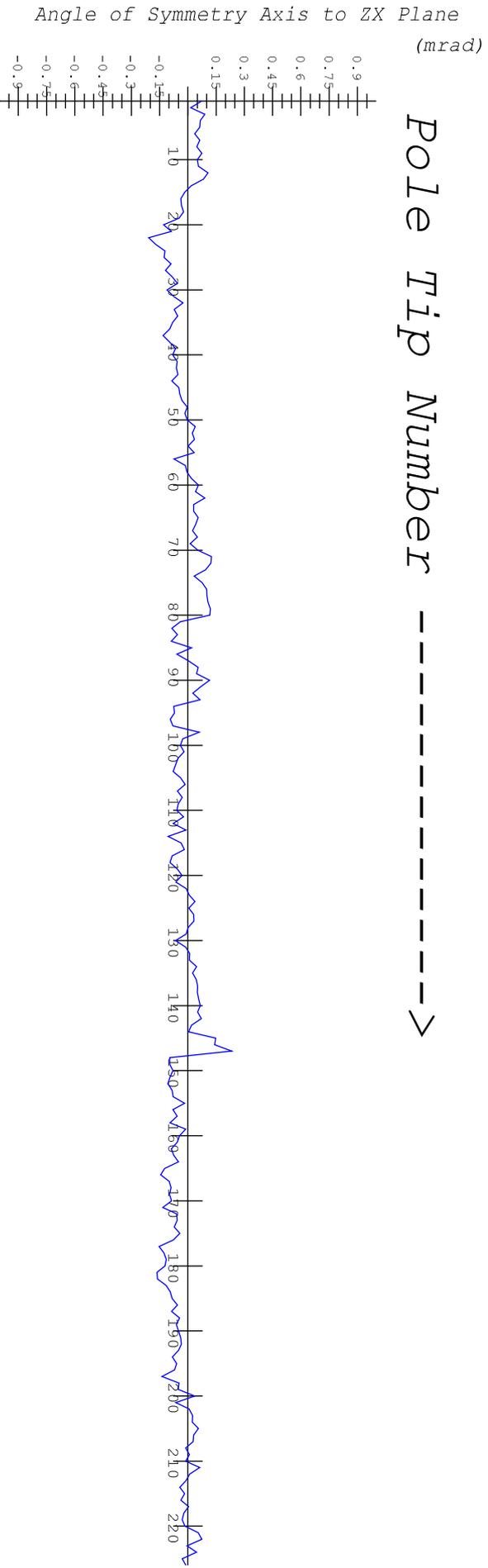


Pole Tip Number ----->



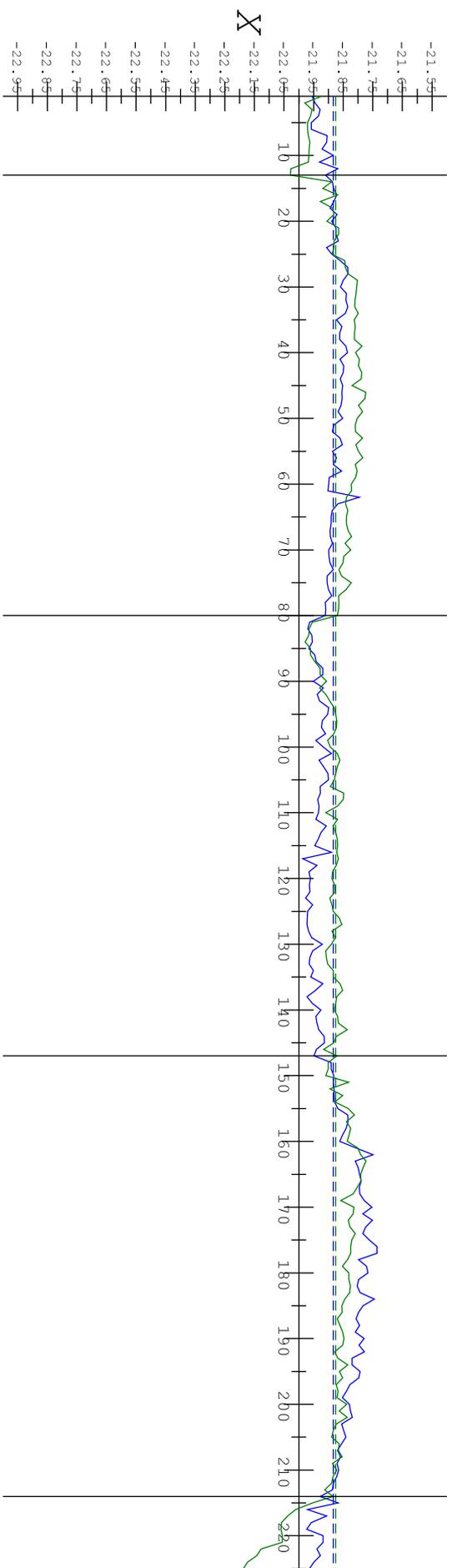
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips  
 Included Angle is the angle between the Upper and Lower Pole Tips



Undulator Pole Tip Angles  
 Post Magnetic Alignment

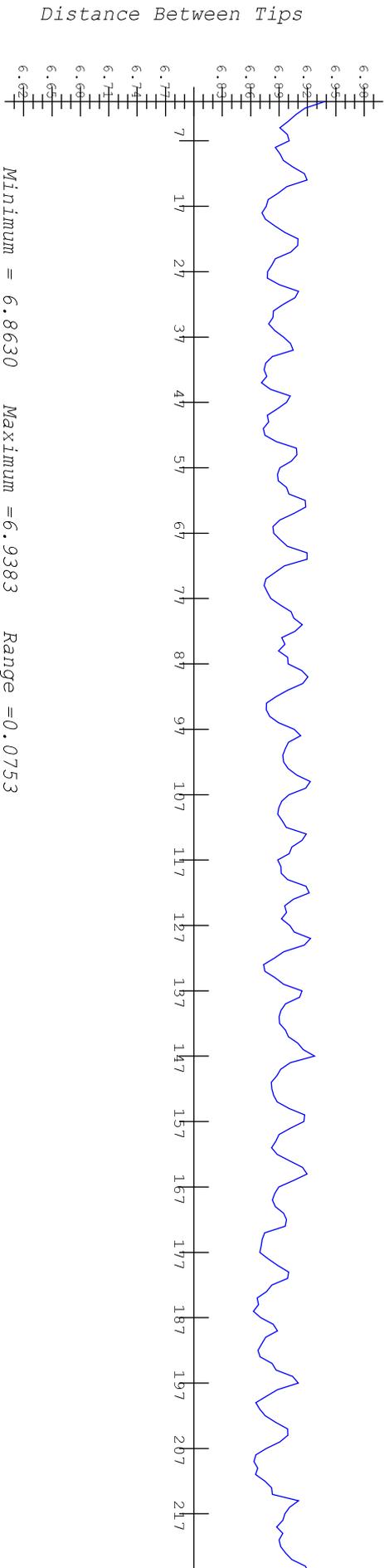
DATE: 20-FEB-2009  
 UNDULATOR #13  
 DATASET #0018  
 PROGRAM VERSION 2.9

# Pole Tip Number ----->



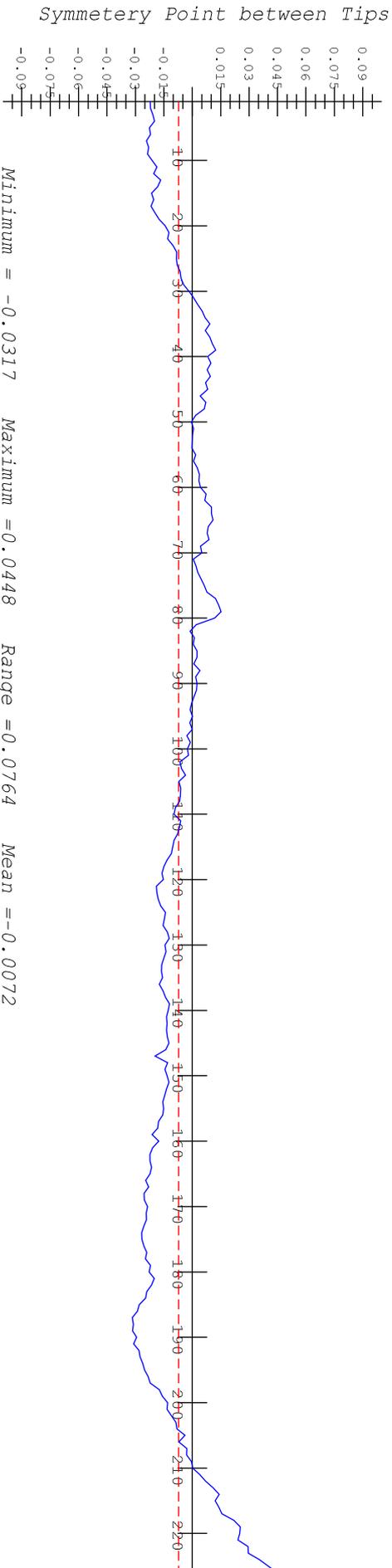
## Undulator Pole Tip Location Post Magnetic Alignment

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 UNDULATOR #13  
 DATASET #0018  
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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

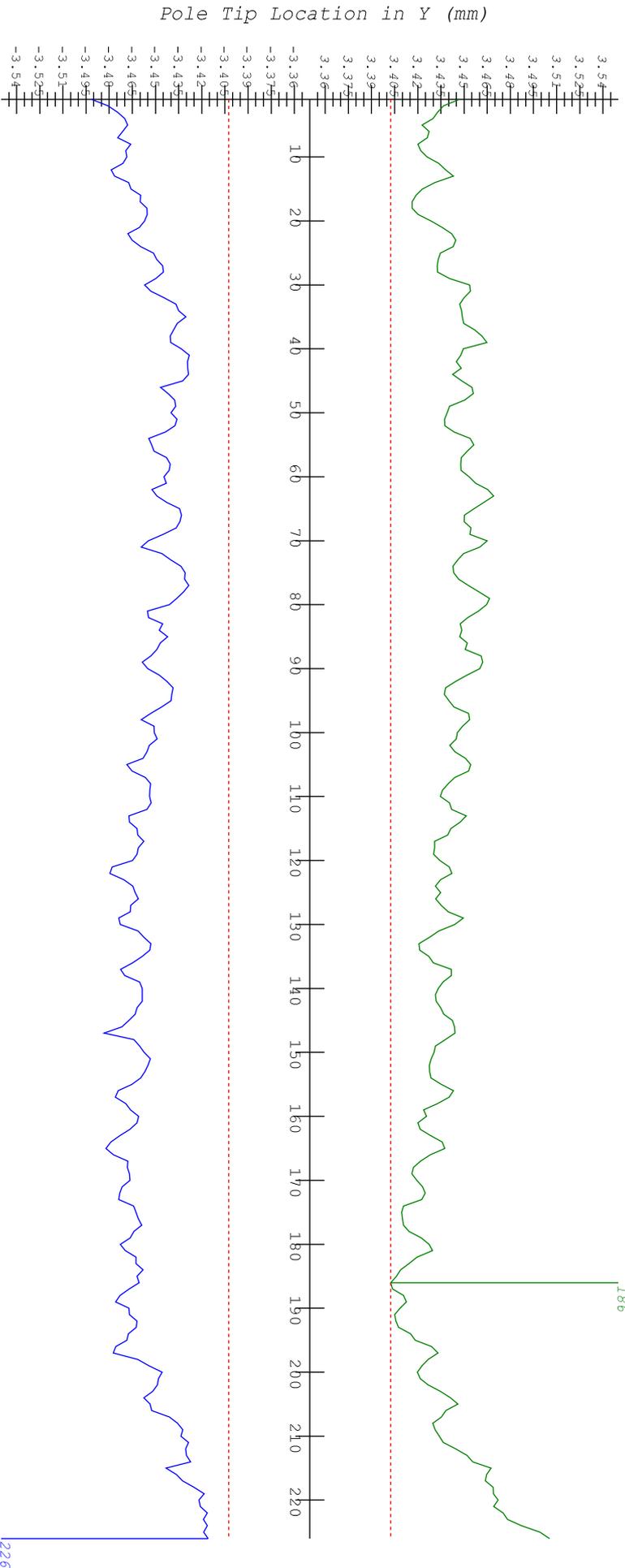


Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 20-FEB-2009  
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 DATASET #0018  
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Maximum Chamber Gap = 6.8049

Minimum = 3.4025    Maximum = 3.5055    Range = 0.1030



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

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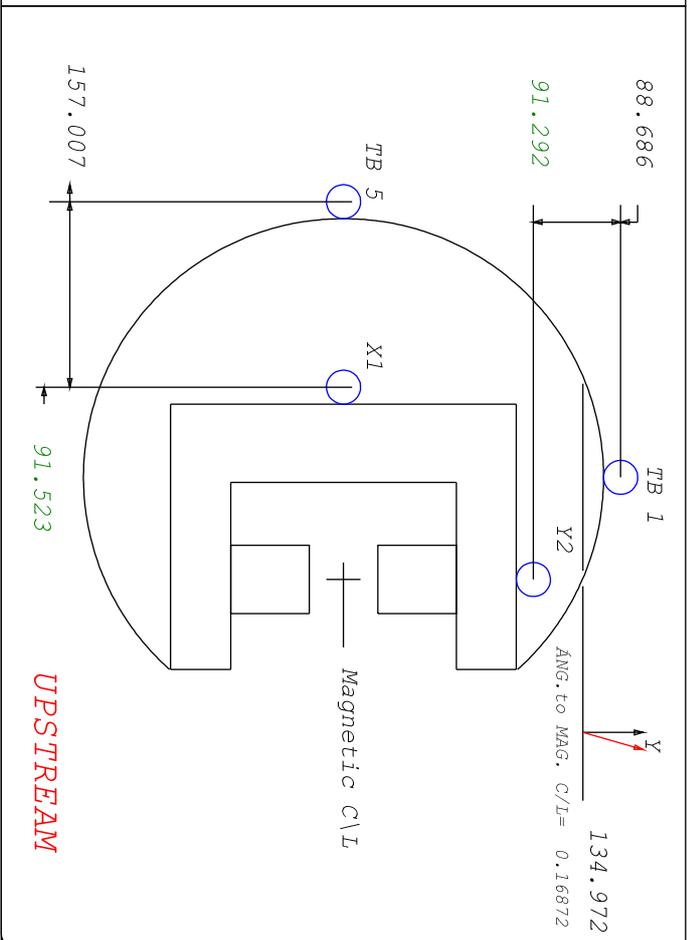
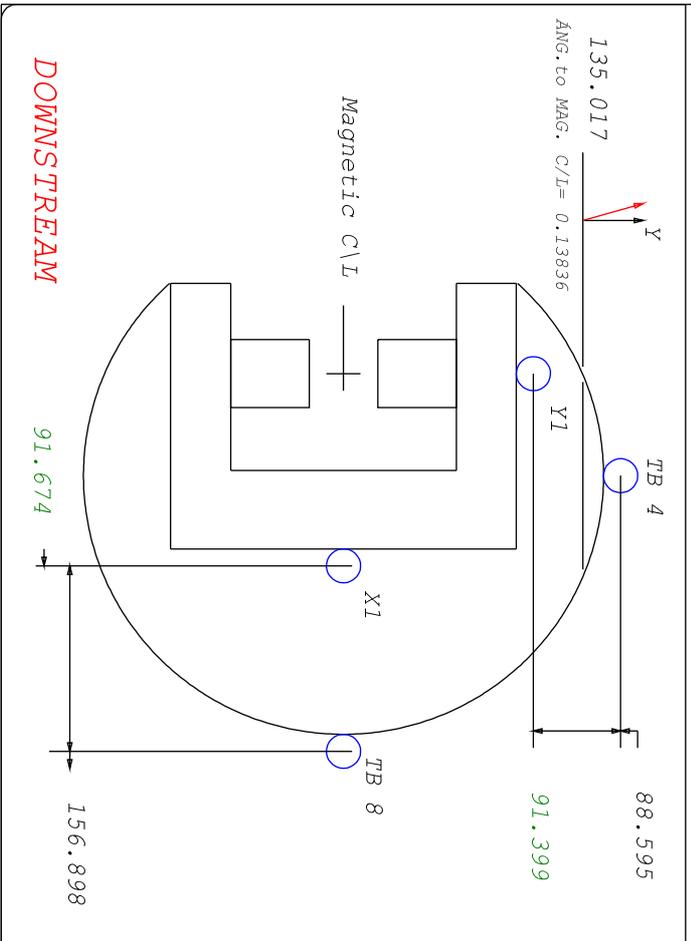
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TOOLING BALL LOCATIONS  
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NUM.	X	Y	Z
1	0.2028	179.9776	-1558.290
2	0.3520	180.0063	-584.4559
3	0.2553	179.8958	591.3031
4	0.2179	179.9945	1562.0756
5	248.5297	0.0652	-1558.335
6	248.4976	-0.0286	-584.6040
7	248.5218	0.0411	591.3234
8	248.5720	-0.0591	1562.0847

	C/L Offset	Length
Top Magnetic Structure	-0.096	3381.058
Bottom Magnetic Structure	0.096	3381.282
Strongback	0.249	3399.785

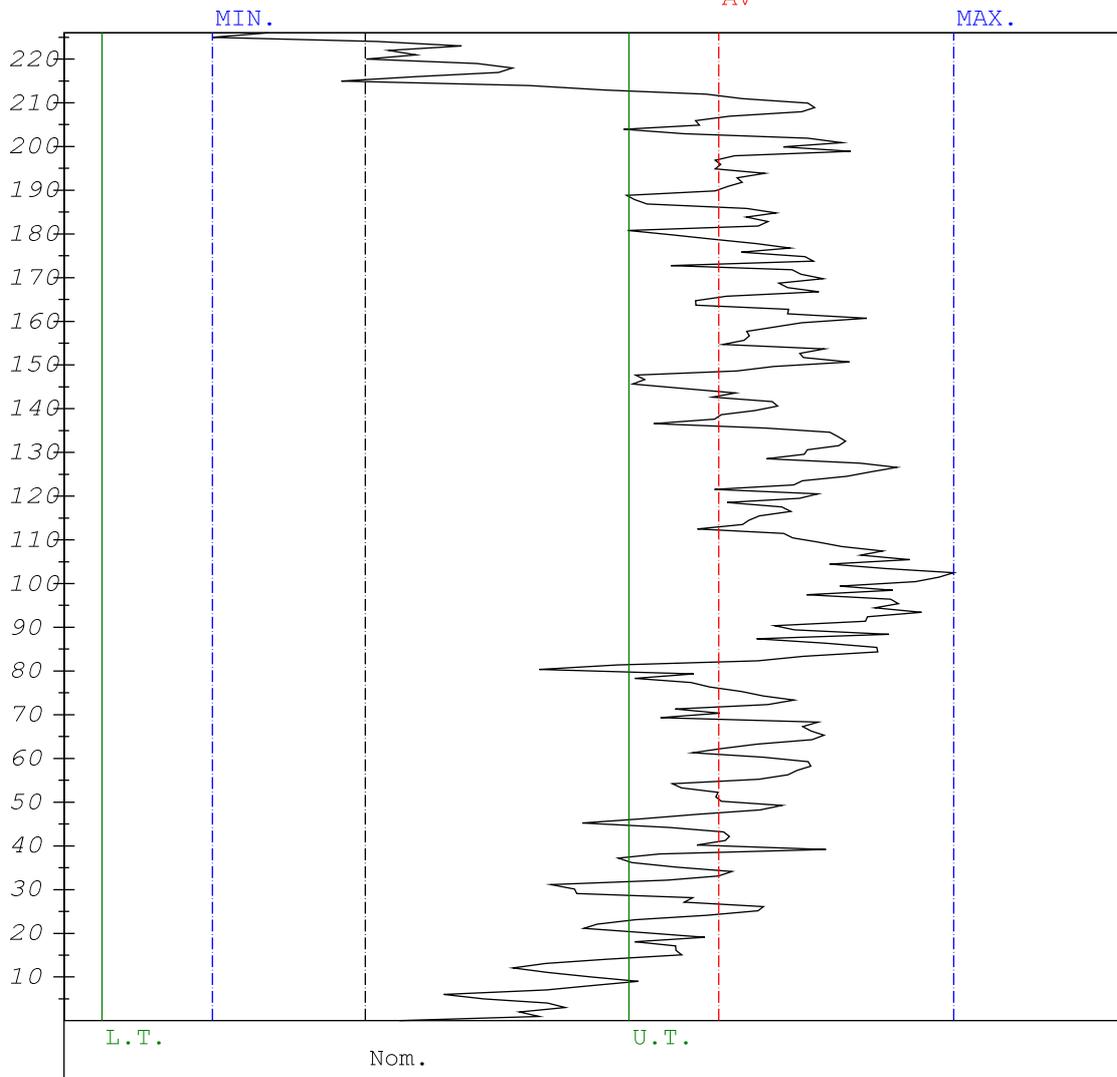
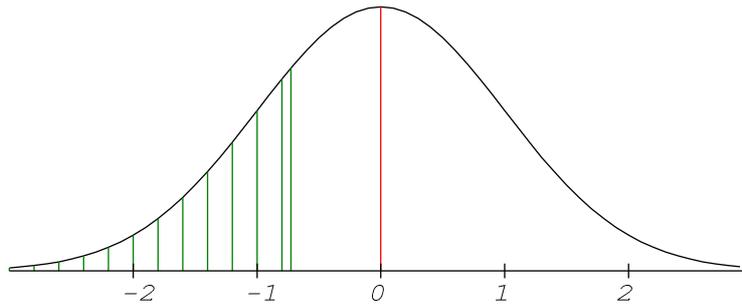
Dimensions in mm

Angles in mrad



## Undulator Dimensional Fiducialization Post Magnetic Alignment

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Nominal : 4.5000	Averag : 5.1704	Cent.-Dev. : 0.6704
Up. Tol. : 0.5	Maximum : 5.6156	U.Tol.Ex. > : 76.6 %
Low.Tol. : -0.5	Minimum : 4.2099	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2349	In Tolerance: 23.4 %
Outlier : 0	Distribution : NOR	Dimension : mrad



Statistical Evaluation  
 Pole Tip Gap Angle  
 Post Magnetic Alignment

DATE: 20-FEB-2009

UNDULATOR #13  
 DATASET #0018

PROGRAM VERSION 2.9