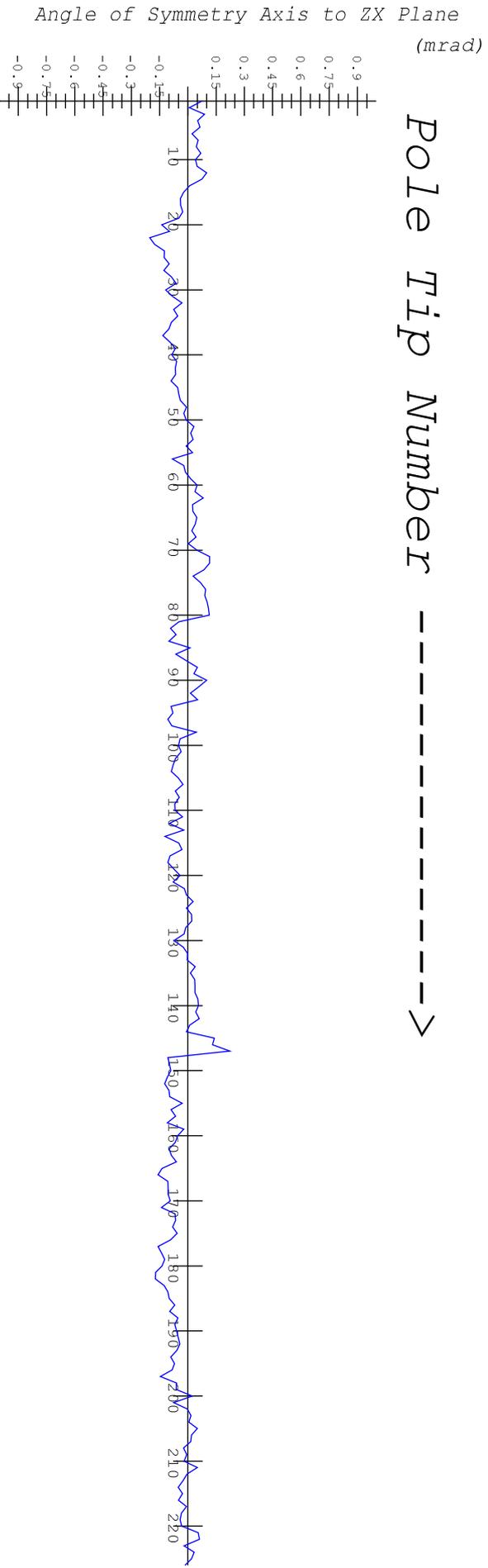


Pole Tip Number ----->



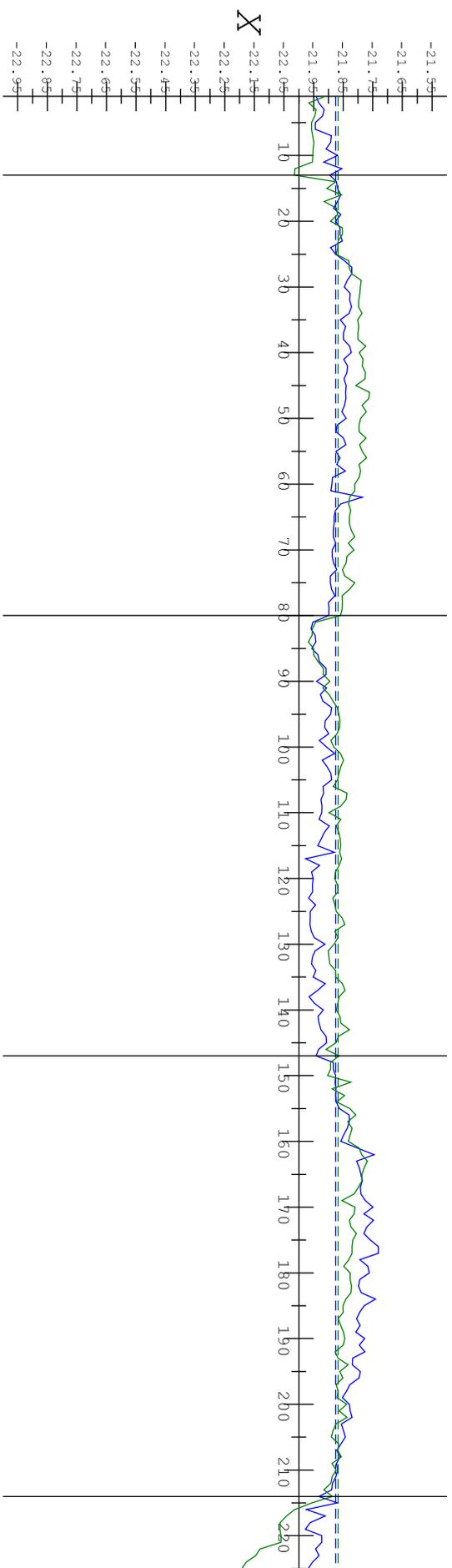
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips  
 Included Angle is the angle between the Upper and Lower Pole Tips



Undulator Pole Tip Angles  
 Post Magnetic Alignment

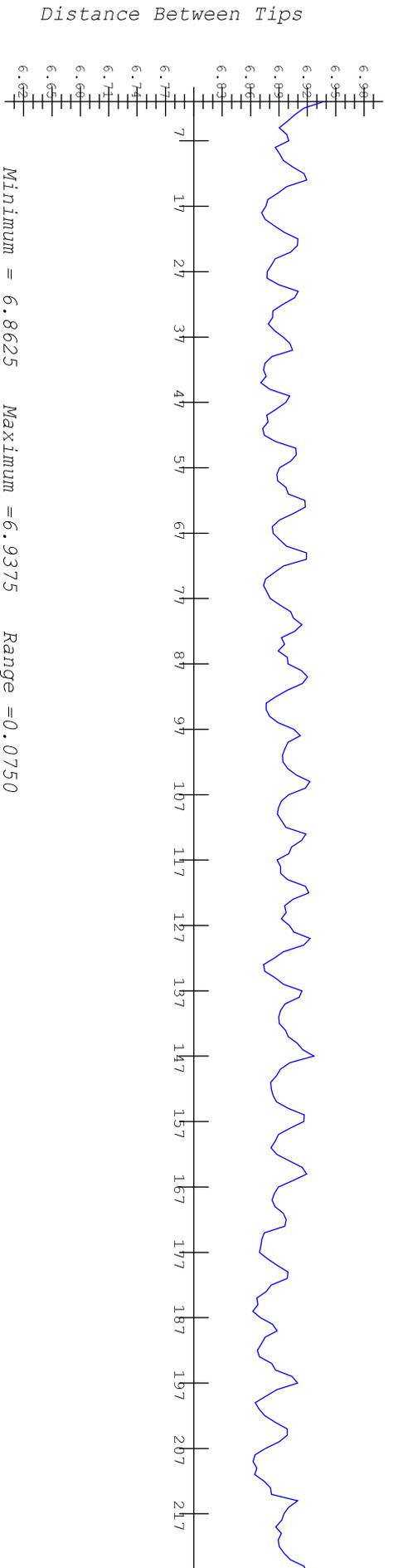
DATE: 07-JUL-2009  
 UNDUULATOR # 13  
 DATASET # 022  
 PROGRAM VERSION 2.9

# Pole Tip Number ----->



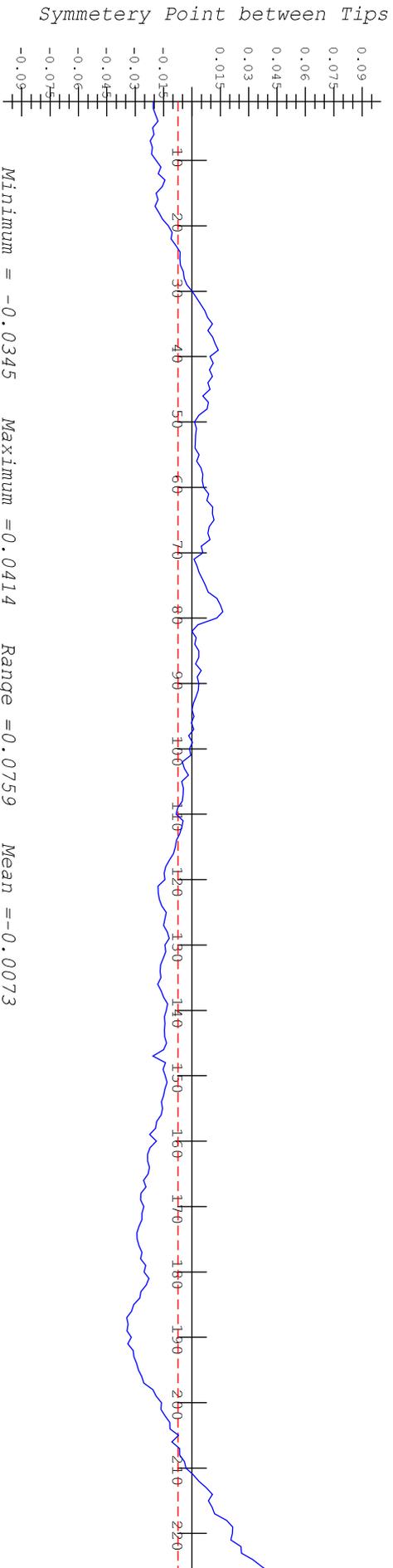
## Undulator Pole Tip Location Post Magnetic Alignment

DATE: 07-JUL-2009  
 UNDUULATOR # 13  
 DATASET # 022  
 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

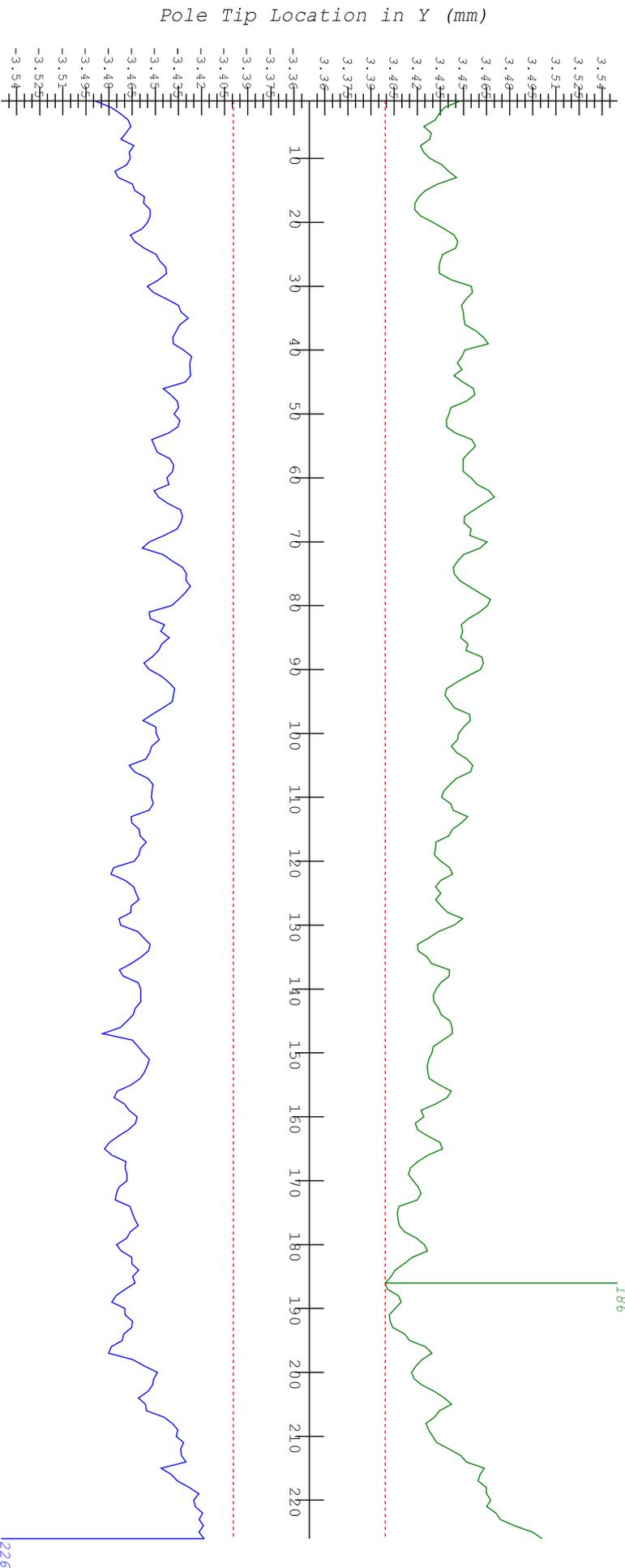


Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 07-JUL-2009  
 UNDUULATOR # 13  
 DATASET # 022  
 PROGRAM VERSION 2.9

Maximum Chamber Gap = 6.7987

Minimum = 3.3993    Maximum = 3.5011    Range = 0.1018



Minimum = -3.4893    Maximum = -3.4182    Range = 0.0711

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: 07-JUL-2009  
UNDULATOR # 13  
DATASET # 022  
PROGRAM VERSION 2.9



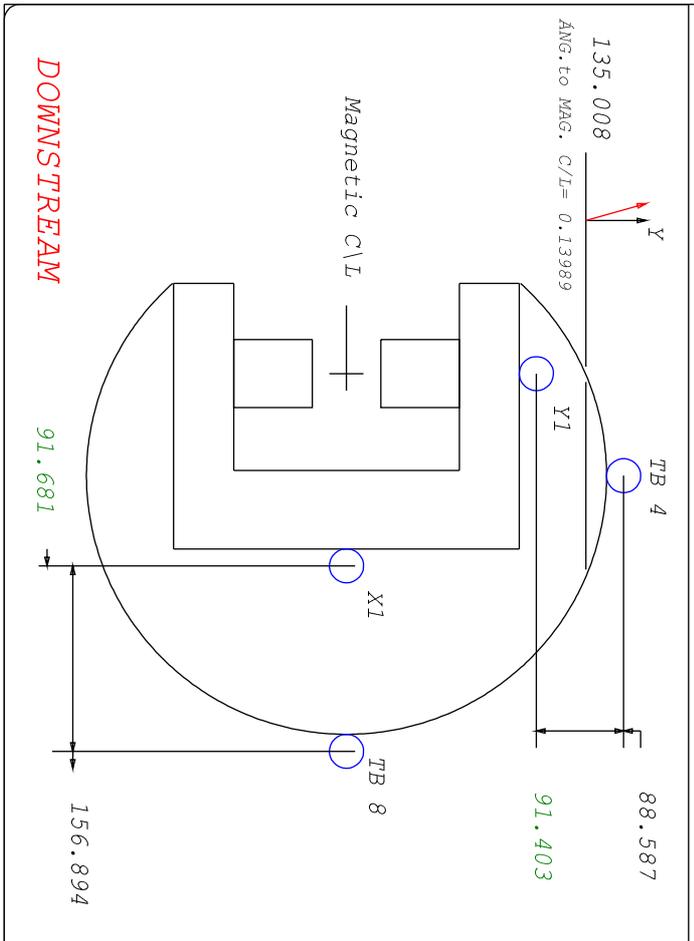
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.2084	179.9816	-1558.285
2	0.3617	180.0084	-584.4519
3	0.2626	179.8939	591.3075
4	0.2174	179.9900	1562.0774
5	248.5377	0.0692	-1558.357
6	248.5089	-0.0316	-584.6007
7	248.5316	0.0368	591.3283
8	248.5746	-0.0634	1562.0903

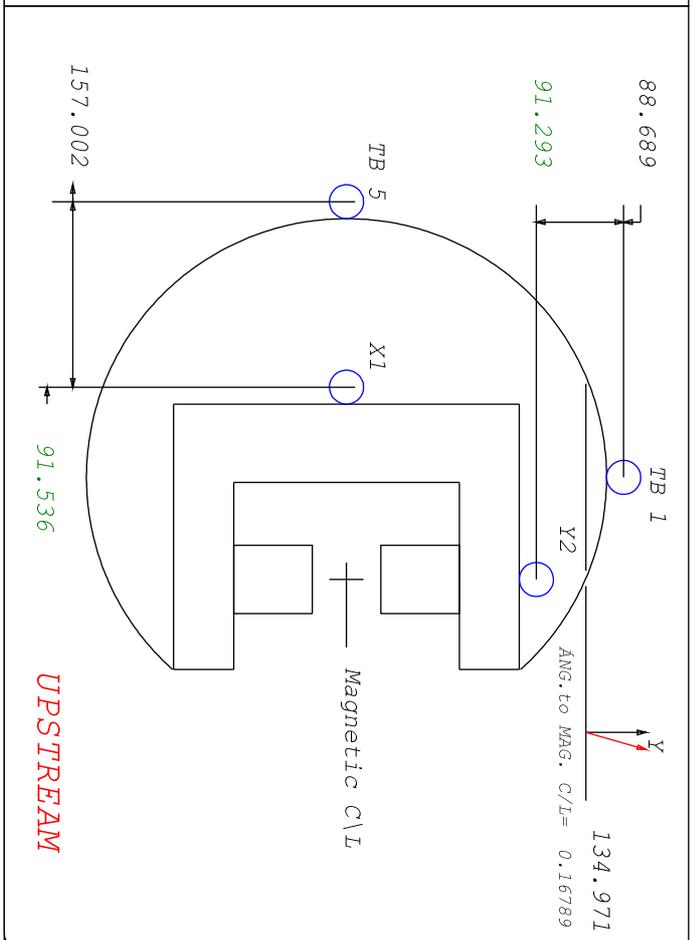
	C/L Offset	Length
Top Magnetic Structure	-0.096	3381.060
Bottom Magnetic Structure	0.096	3381.284
Strongback	0.252	3399.788

Dimensions in mm

Angles in mrad



**DOWNSTREAM**

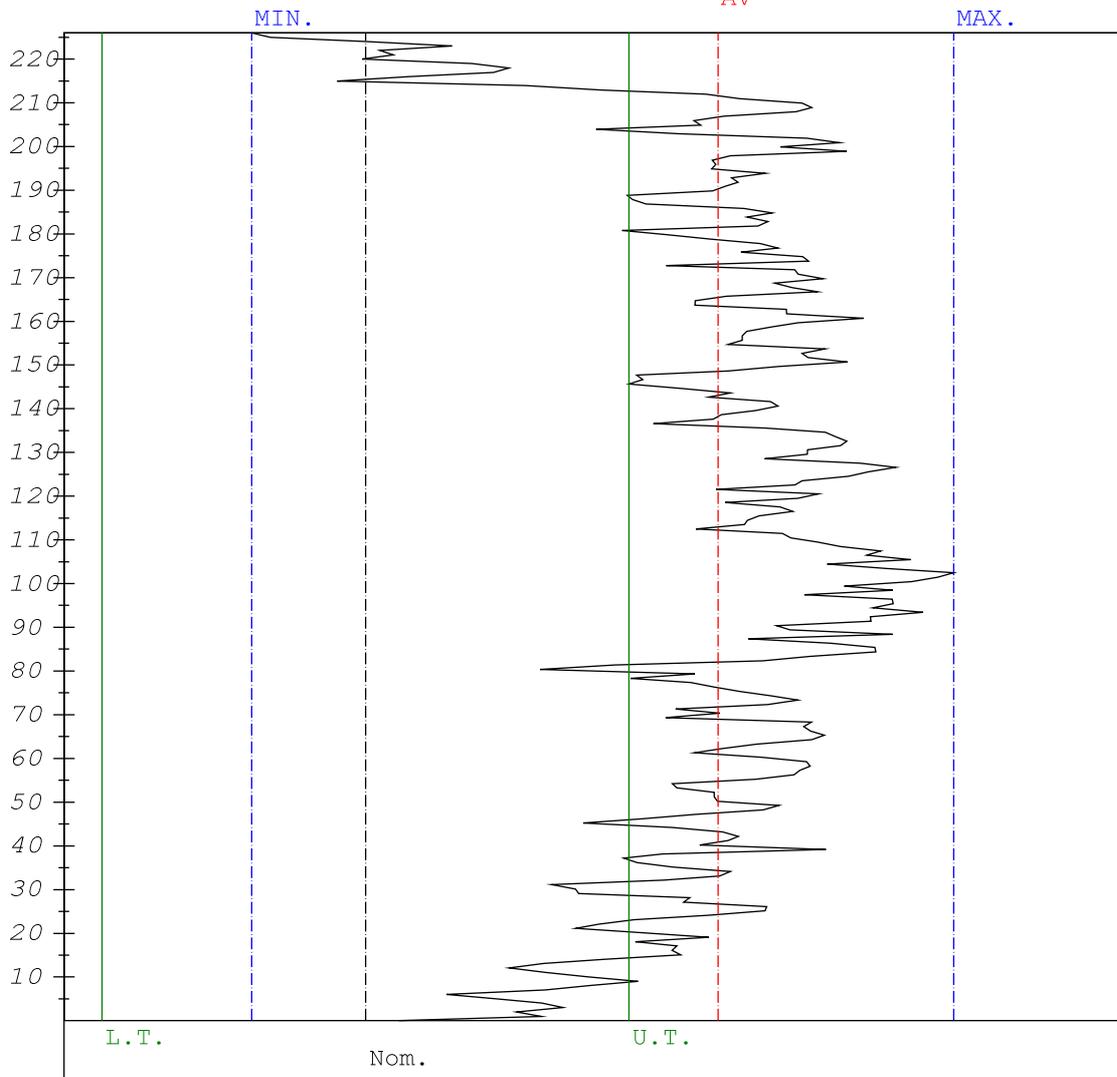
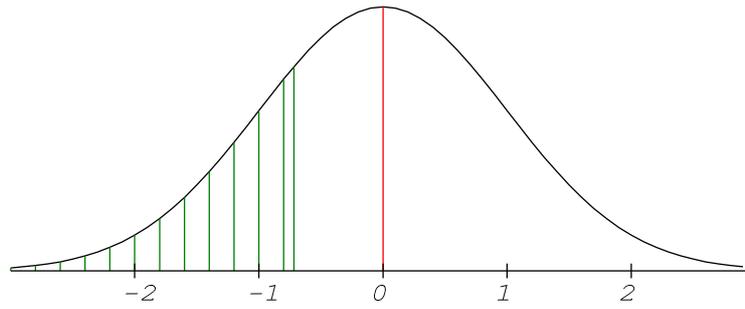


**UPSTREAM**



# Undulator Dimensional Fiducialization Post Magnetic Alignment

DATE: 07-JUL-2009  
 UNDULATOR # 13  
 DATASET # 022  
 PROGRAM VERSION 2.9



Nominal : 4.5000	Averag : 5.1686	Cent.-Dev. : 0.6686
Up. Tol. : 0.5	Maximum : 5.6160	U.Tol.Ex. > : 76.3 %
Low.Tol. : -0.5	Minimum : 4.2841	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2355	In Tolerance: 23.7 %
Outlier : 0	Distribution : NOR	Dimension : mrad



Statistical Evaluation  
 Pole Tip Gap Angle  
 Post Magnetic Alignment

DATE: 07-JUL-2009  
 UNDULATOR # 13  
 DATASET # 022  
 PROGRAM VERSION 2.9