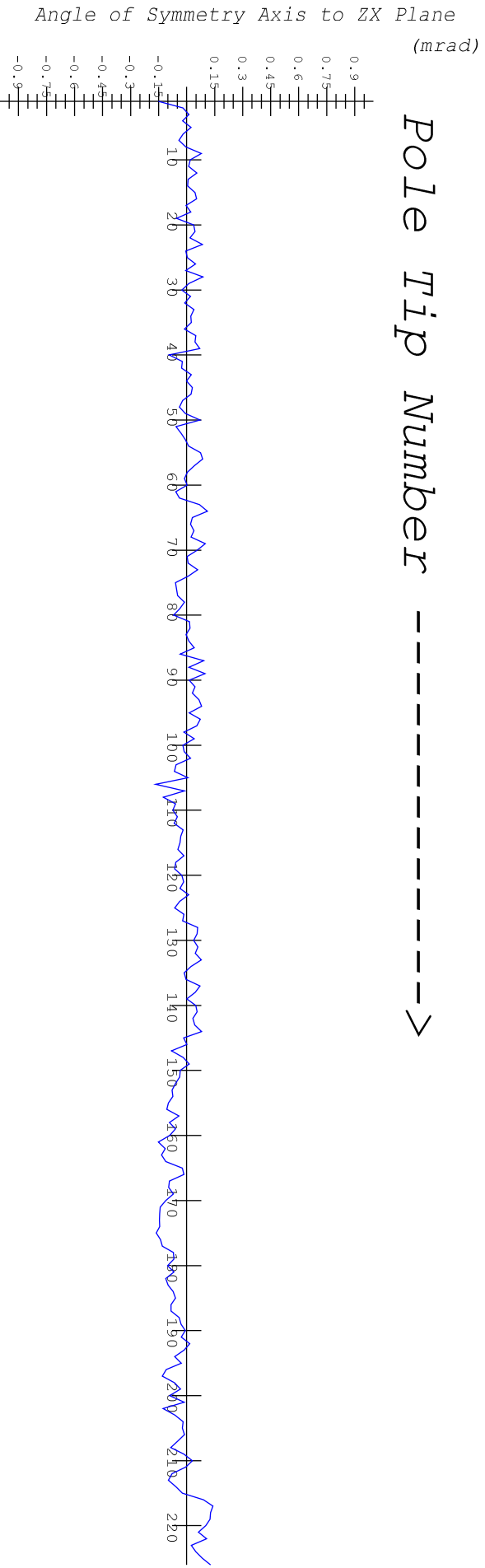


Pole Tip Number ----->



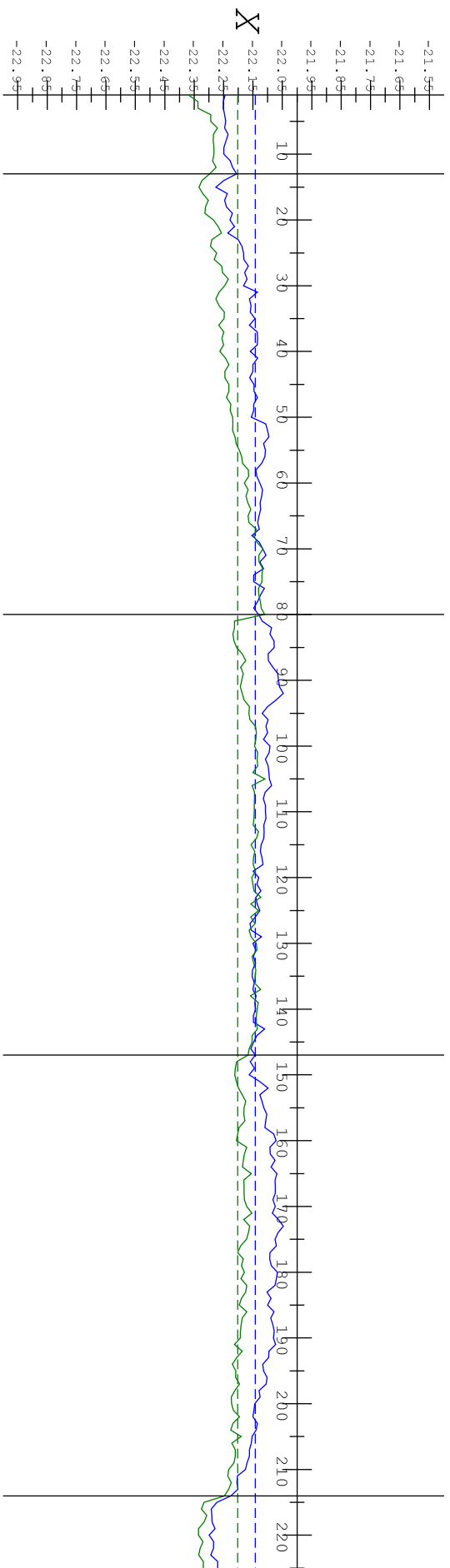
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips
 Included Angle is the angle between the Upper and Lower Pole Tips



Undulator Pole Tip Angles
 Post Magnetic Alignment

DATE: 26-JAN-2009
 UNDUULATOR # 32
 DATASET # 0003
 PROGRAM VERSION 2.8

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 = -22.203

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 = -22.142



NATIONAL ACCELERATOR LABORATORY

MMF GRE 45129

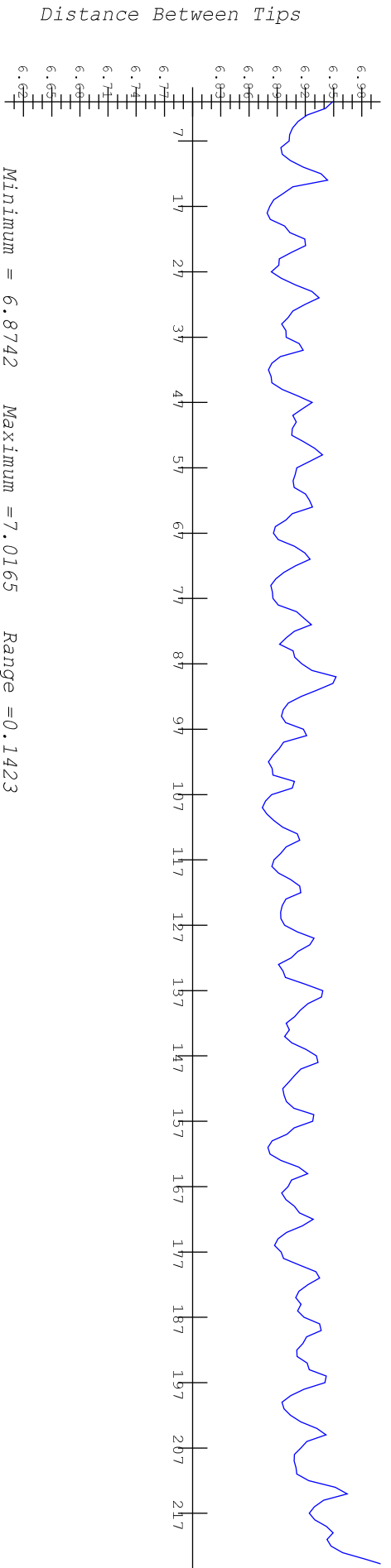
Undulator Pole Tip Location Post Magnetic Alignment

DATE: 26-JAN-2009

UNDULATOR # 32

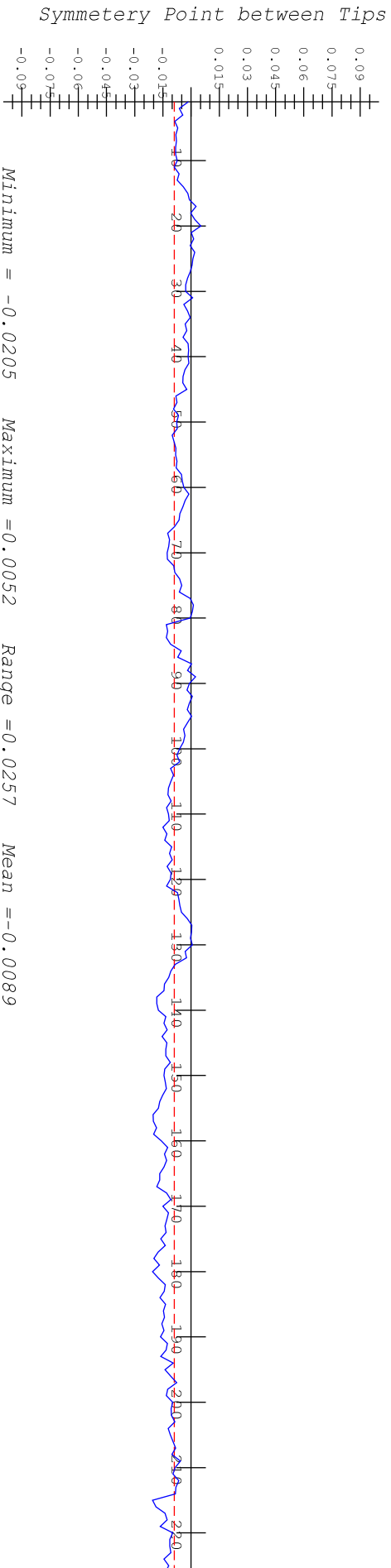
DATASET # 0003

PROGRAM VERSION 2.8



in mm

Pole Tip Number ----->



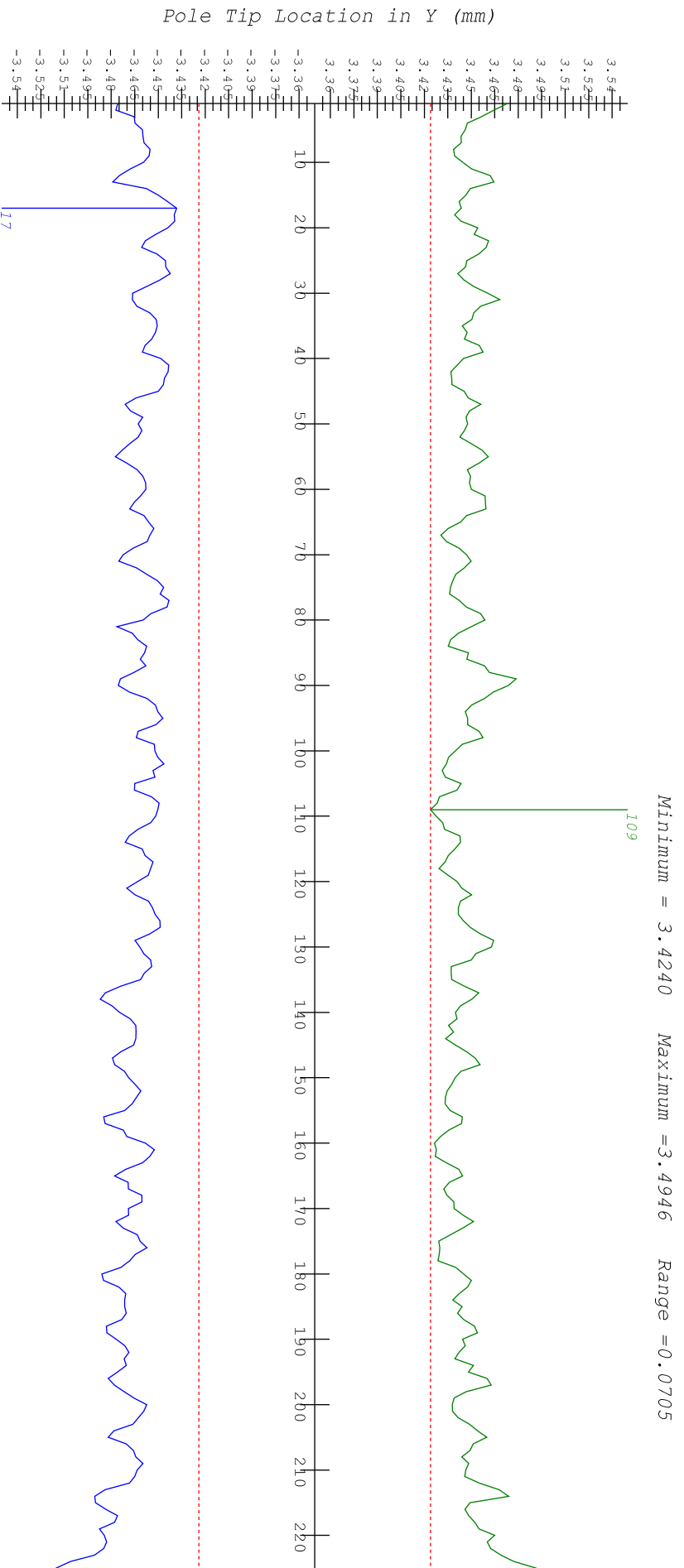
Symmetry Point is the symmetry point between the Upper and Lower Pole Tips were they intersect a YZ plane at the Magnetic C\L
 Broken Red line is Mean Value of Symmetry Points
 Distance Between Tips is the distance between the Upper and Lower Pole Tips were they intersect a YZ plane at the Magnetic C\L

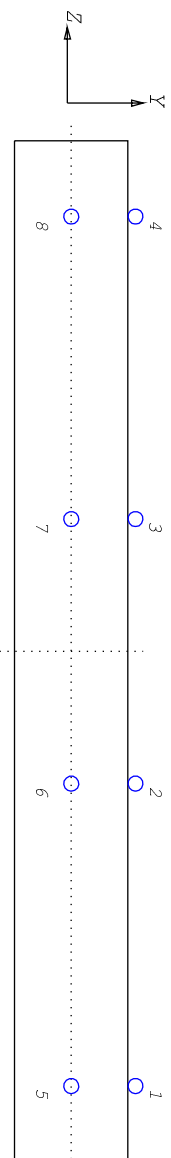


Undulator Pole Tip Location
 Post Magnetic Alignment

DATE: 26-JAN-2009
 UNDUULATOR # 32
 DATASET # 0003
 PROGRAM VERSION 2.8

Maximum Chamber Gap = 6.8481





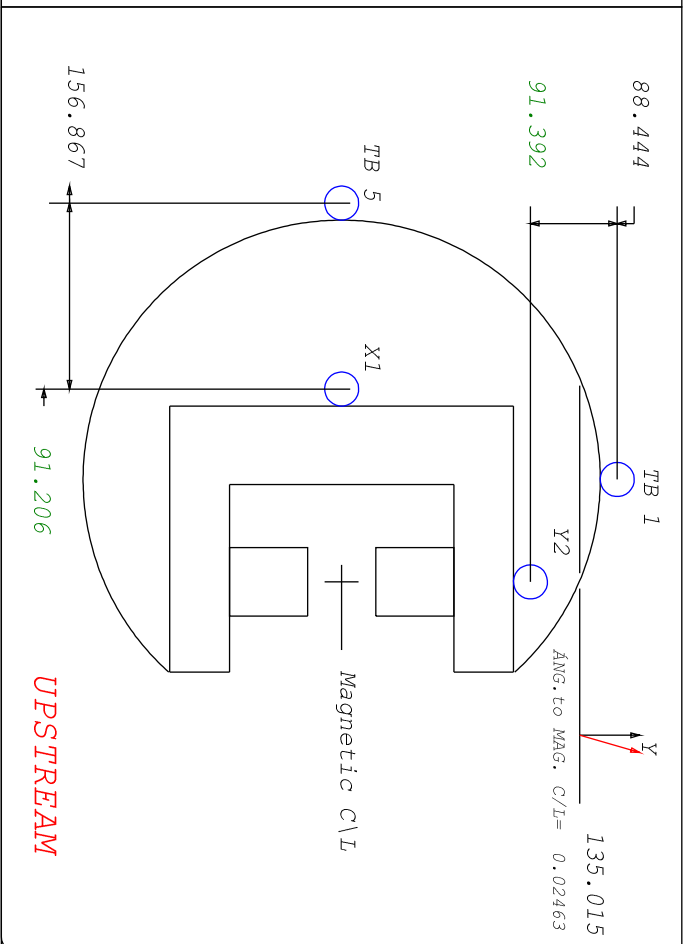
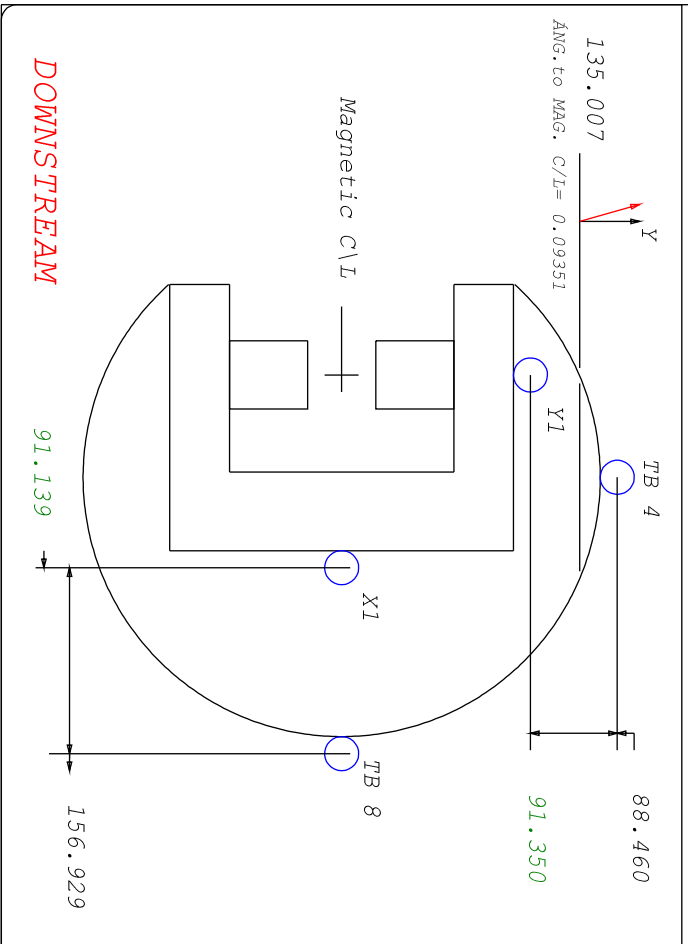
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	-0.2108	179.8362	-1558.116
2	-0.1978	179.7233	-584.5986
3	-0.0787	179.6991	591.4977
4	-0.1263	179.8104	1562.3062
5	248.0726	0.0811	1558.107
6	248.1782	0.0133	-584.4851
7	248.1590	-0.0222	591.5526
8	248.0685	0.0245	1562.4057

Top Magnetic Structure C/L Offset Length 3380.943
 Bottom Magnetic Structure 0.066 3381.198
 Strongback 0.473 3399.970

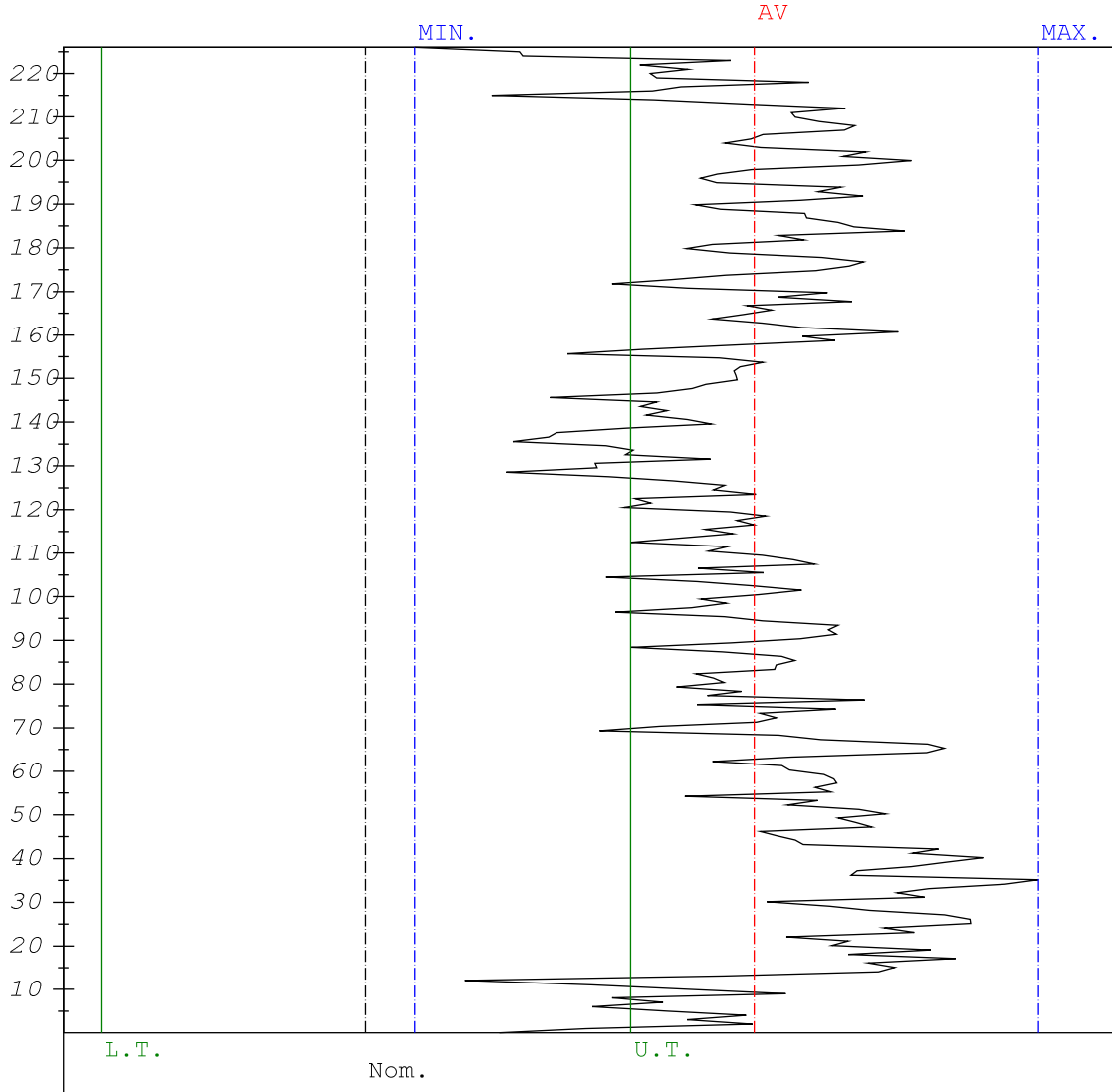
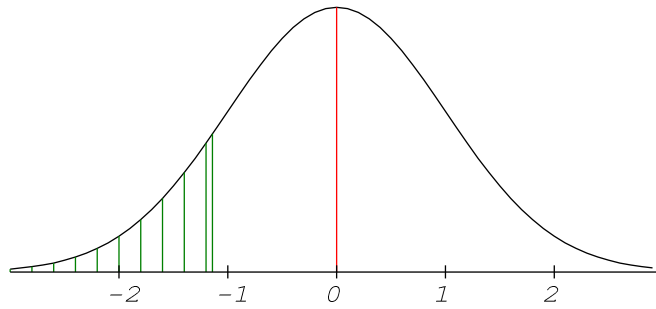
Dimensions in mm

Angles in mrad



Undulator Dimensional Fiducialization Post Magnetic Alignment

DATE: 26-JAN-2009
 UNDULATOR # 32
 DATASET # 0003
 PROGRAM VERSION 2.8



Nominal : 4.5000	Averag : 5.2334	Cent.-Dev. : 0.7334
Up. Tol. : 0.5	Maximum : 5.7699	U.Tol.Ex. > : 87.3 %
Low.Tol. : -0.5	Minimum : 4.5930	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.2046	In Tolerance: 12.7 %
Outlier : 0	Distribution : NOR	Dimension : mrad



Statistical Evaluation
 Pole Tip Gap Angle
 Post Magnetic Alignment

DATE: 26-JAN-2009
 UNDULATOR # 32
 DATASET # 0003
 PROGRAM VERSION 2.8