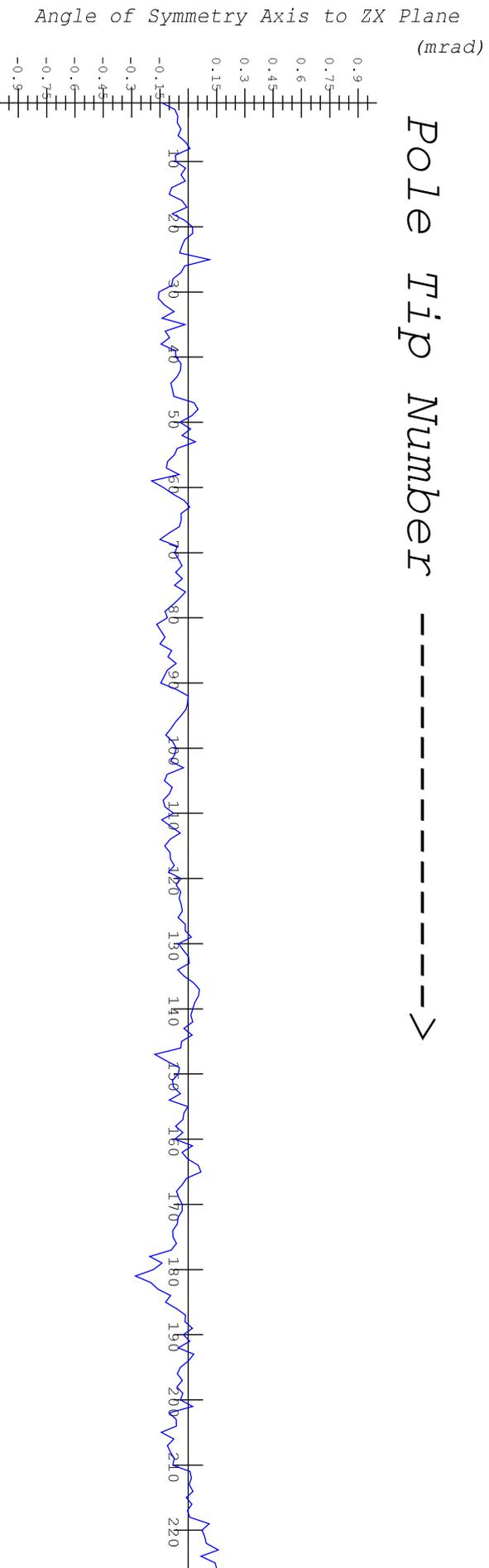


Pole Tip Number ----->



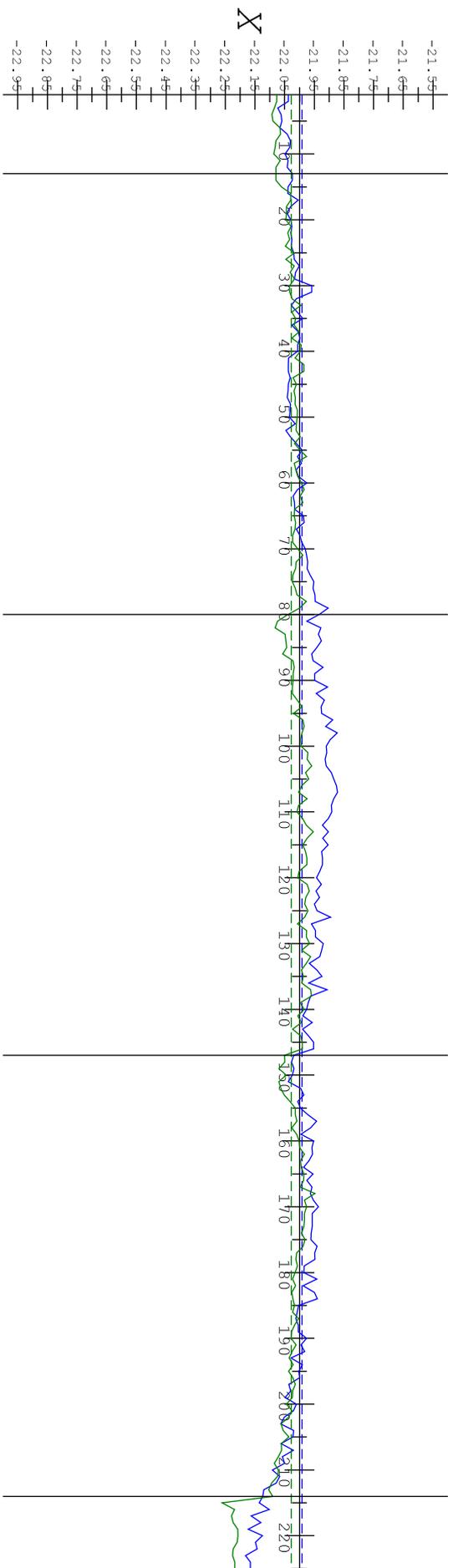
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips
 Included Angle is the angle between the Upper and Lower Pole Tips



Undulator Pole Tip Angles
 Post Magnetic Alignment

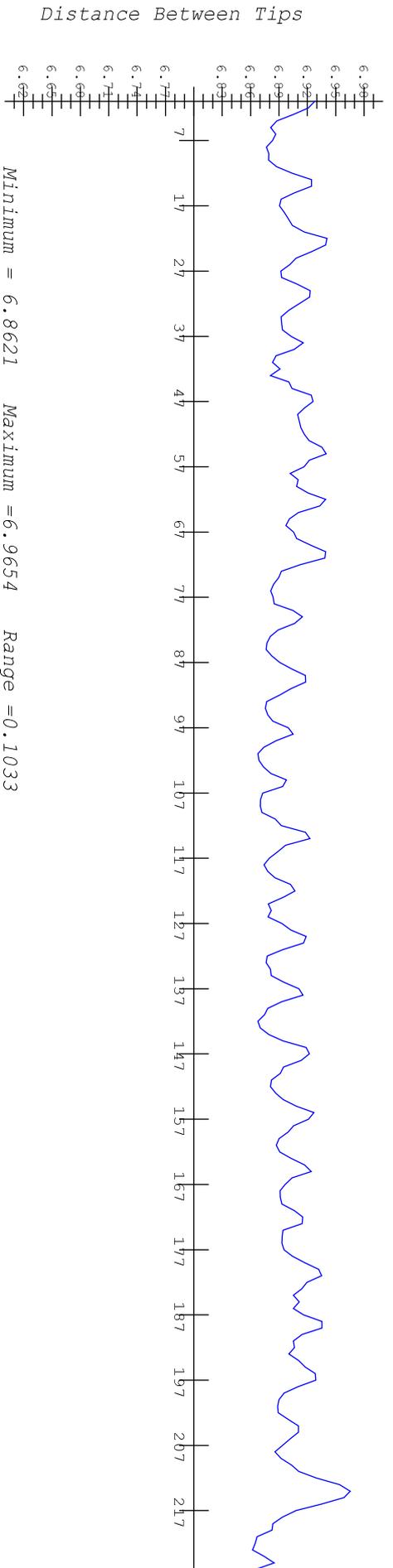
DATE: 21-OCT-2009
 UNDULATOR # 40
 DATASET # 0001
 PROGRAM VERSION 2.9

Pole Tip Number ----->



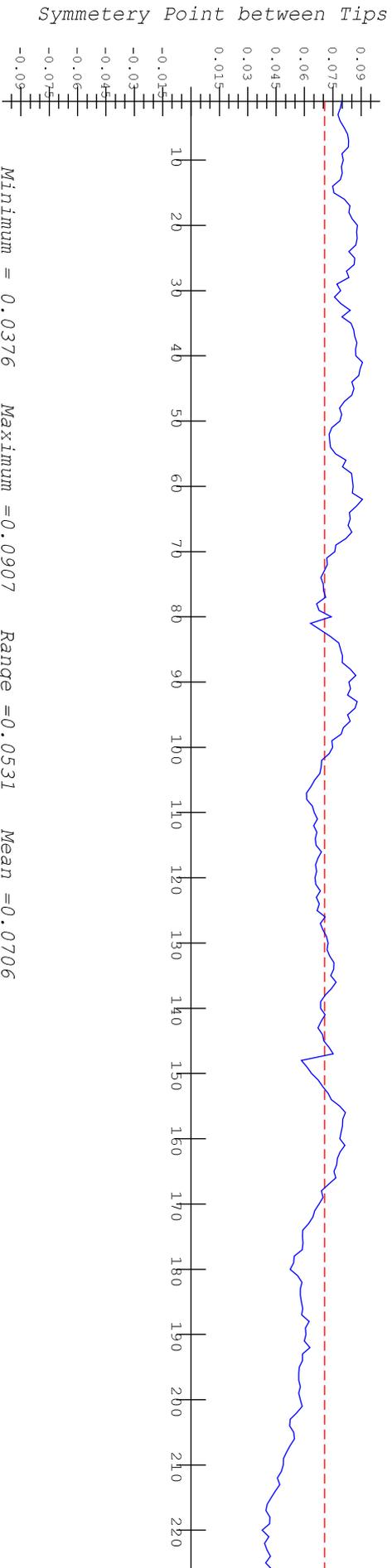
Undulator Pole Tip Location Post Magnetic Alignment

DATE: 21-OCT-2009
 UNDULATOR # 40
 DATASET # 0001
 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

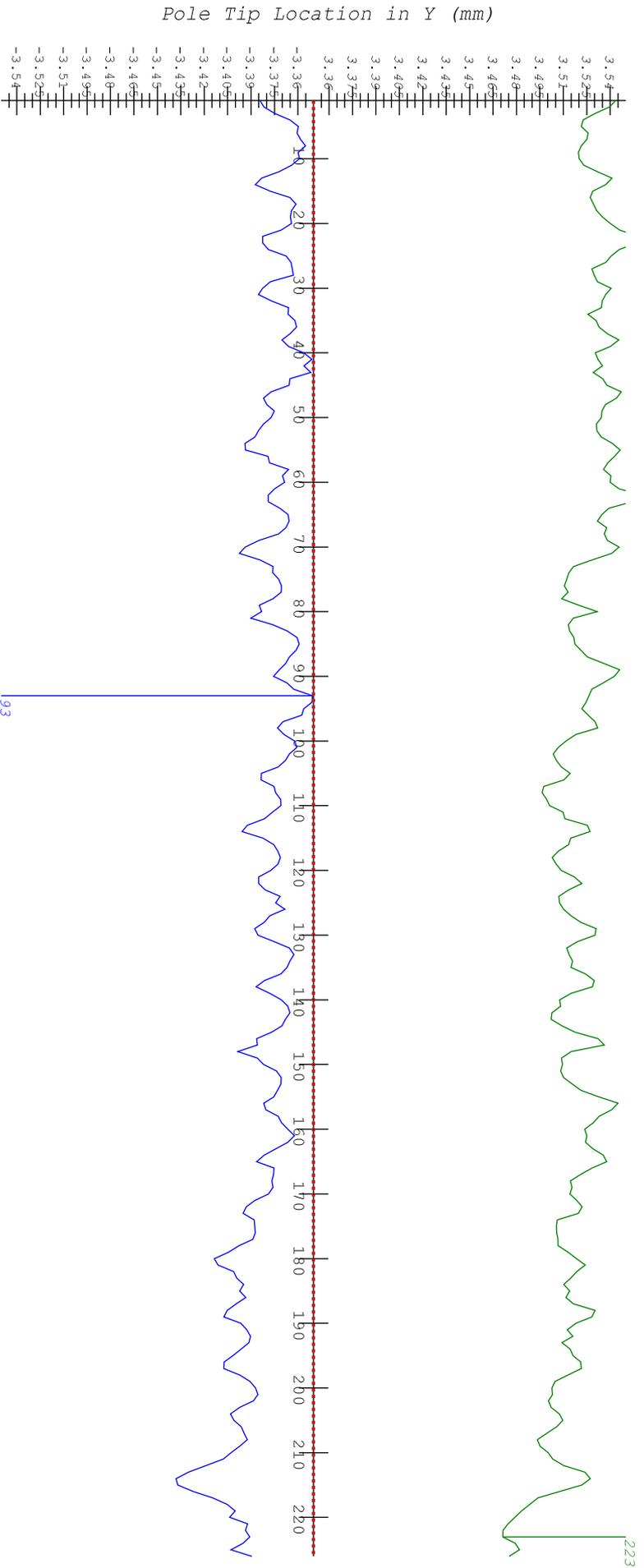


Undulator Pole Tip Location
 Post Magnetic Alignment

DATE: 21-OCT-2009
 UNDUULATOR # 40
 DATASET # 0001
 PROGRAM VERSION 2.9

Maximum Chamber Gap = 6.7012

Minimum = 3.4713 Maximum = 3.5604 Range = 0.0891



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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DATASET #0001
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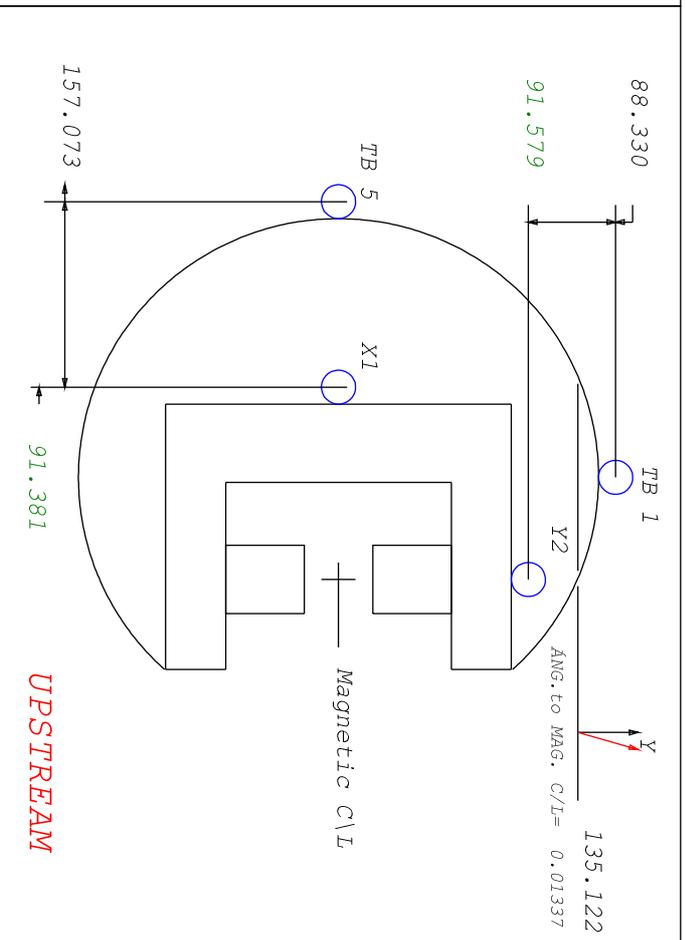
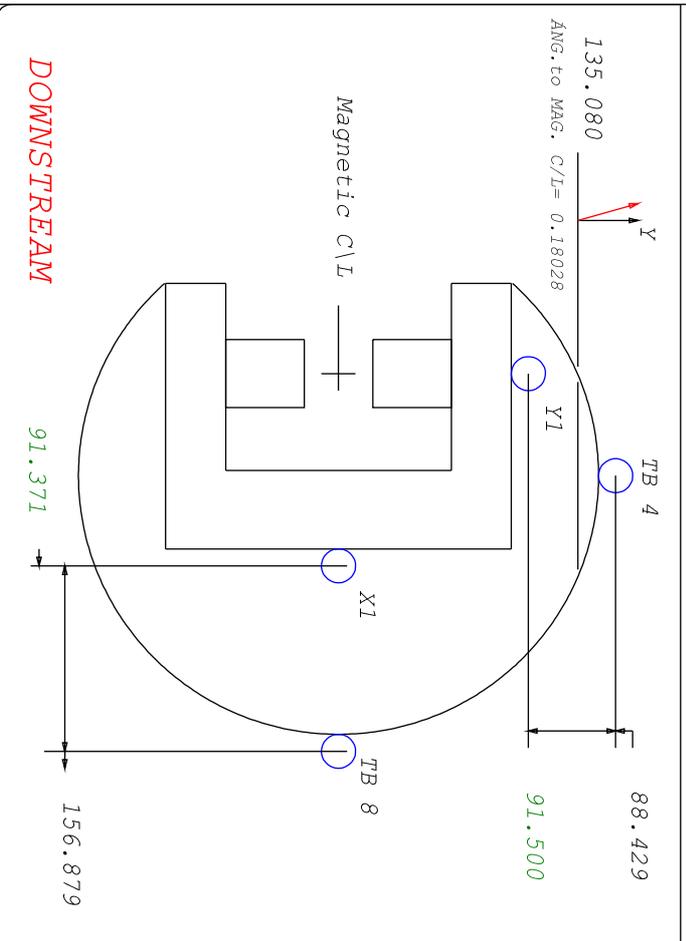
TOOLING BALL LOCATIONS

| NUM. | X | Y | Z |
|------|----------|----------|-----------|
| 1 | -0.1197 | 179.9091 | -1558.116 |
| 2 | 0.0035 | 179.8192 | -584.5045 |
| 3 | 0.1179 | 179.8571 | 591.5821 |
| 4 | -0.0660 | 179.9291 | 1562.3703 |
| 5 | 248.4539 | 0.1856 | 1558.079 |
| 6 | 248.3637 | 0.1760 | -584.4232 |
| 7 | 248.3686 | 0.1448 | 591.6266 |
| 8 | 248.2504 | 0.1656 | 1562.4460 |

| | C/L Offset | Length |
|---------------------------|------------|----------|
| Top Magnetic Structure | -0.029 | 3380.919 |
| Bottom Magnetic Structure | 0.029 | 3380.893 |
| Strongback | 0.533 | 3399.981 |

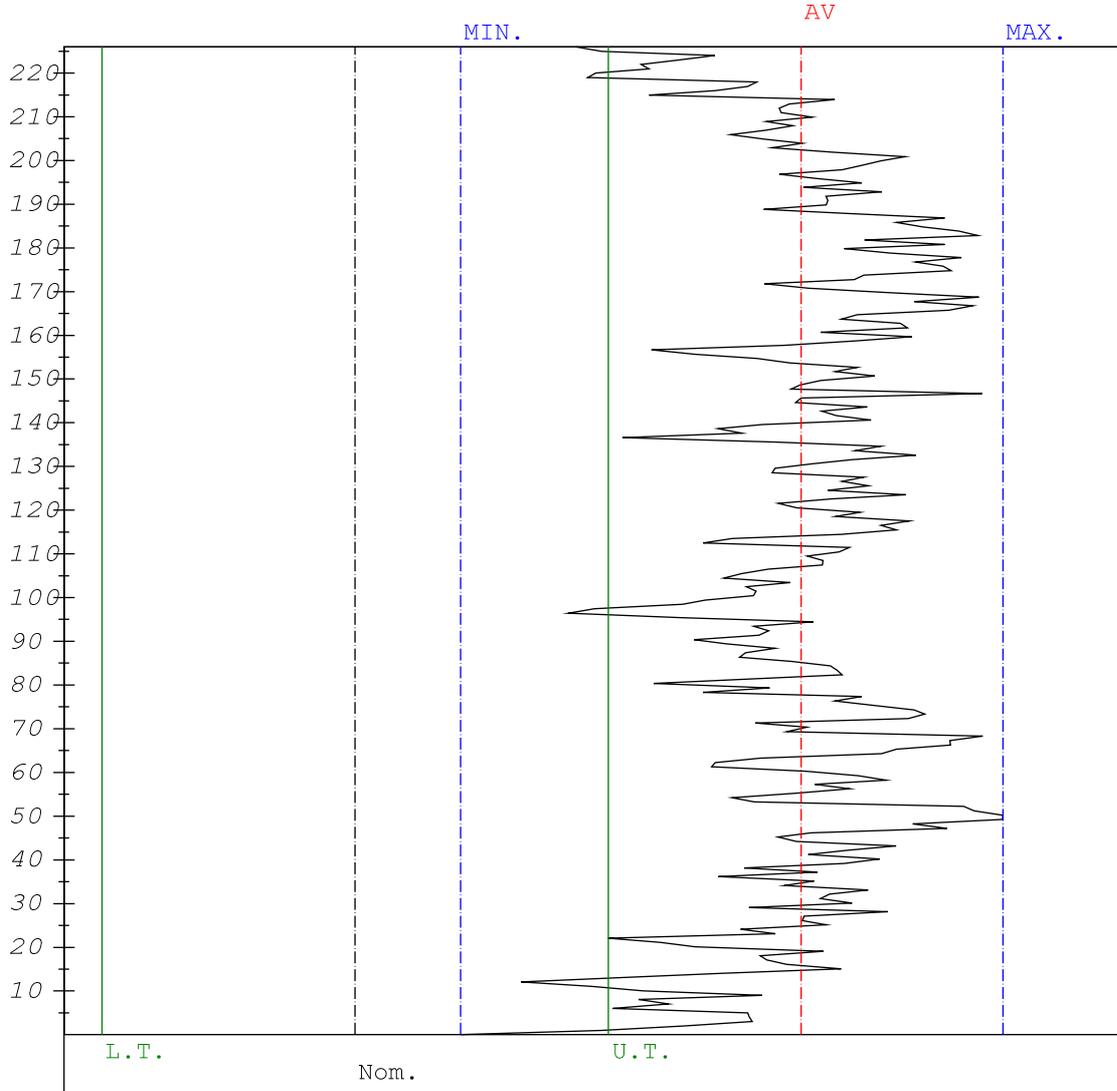
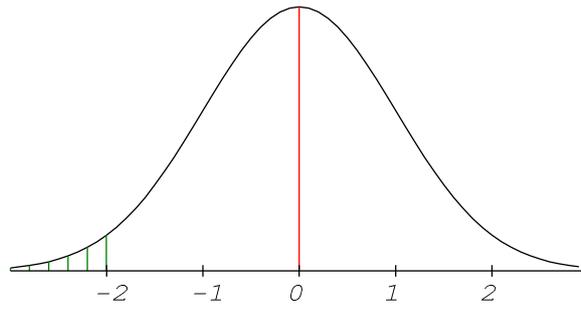
Dimensions in mm

Angles in mrad



Undulator Dimensional Fiducialization
Post Magnetic Alignment

DATE: 21-OCT-2009
UNDULATOR #40
DATASET #0001
PROGRAM VERSION 2.9



| | | |
|------------------|---------------------|----------------------|
| Nominal : 4.5000 | Averag : 5.381 | Cent.-Dev. : 0.881 |
| Up. Tol. : 0.5 | Maximum : 5.7794 | U.Tol.Ex. > : 97.8 % |
| Low.Tol. : -0.5 | Minimum : 4.7081 | L.Tol.Ex. < : 0.0 % |
| Spl.Size : 226 | Stand.-Dev.: 0.1903 | In Tolerance: 2.2 % |
| Outlier : 0 | Distribution : NOR | Dimension : mrad |



Statistical Evaluation
 Pole Tip Gap Angle
 Post Magnetic Alignment

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 UNDULATOR #40
 DATASET #0001
 PROGRAM VERSION 2.9