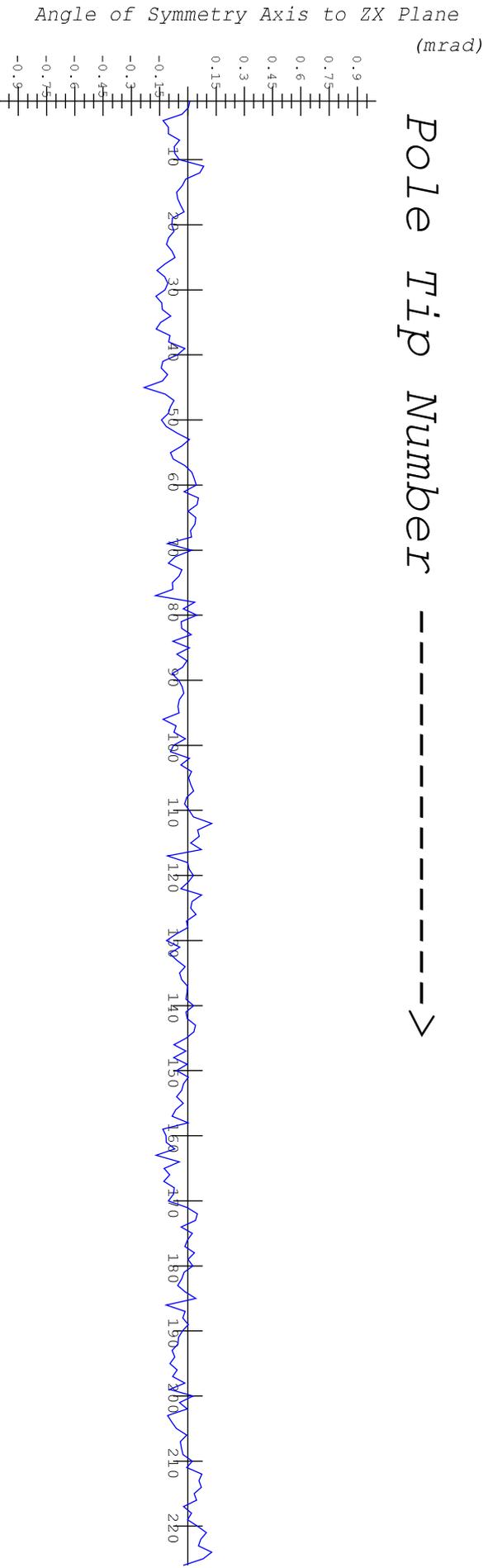


Pole Tip Number ----->



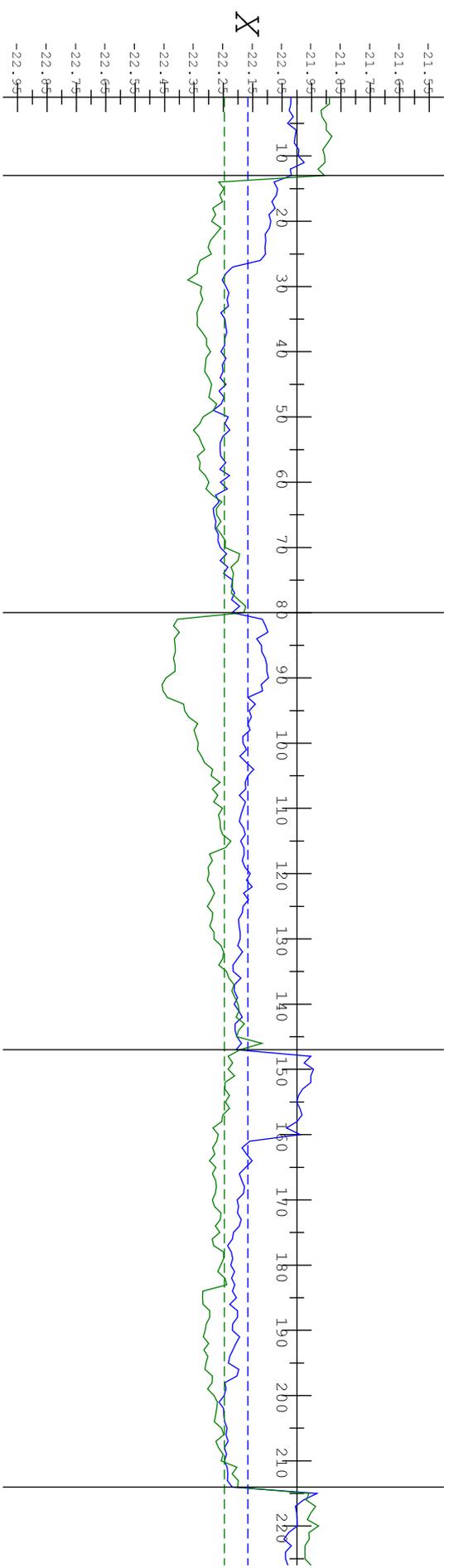
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips  
 Included Angle is the angle between the upper and lower Pole Tips



Undulator Pole Tip Angles  
 Post Magnetic Alignment

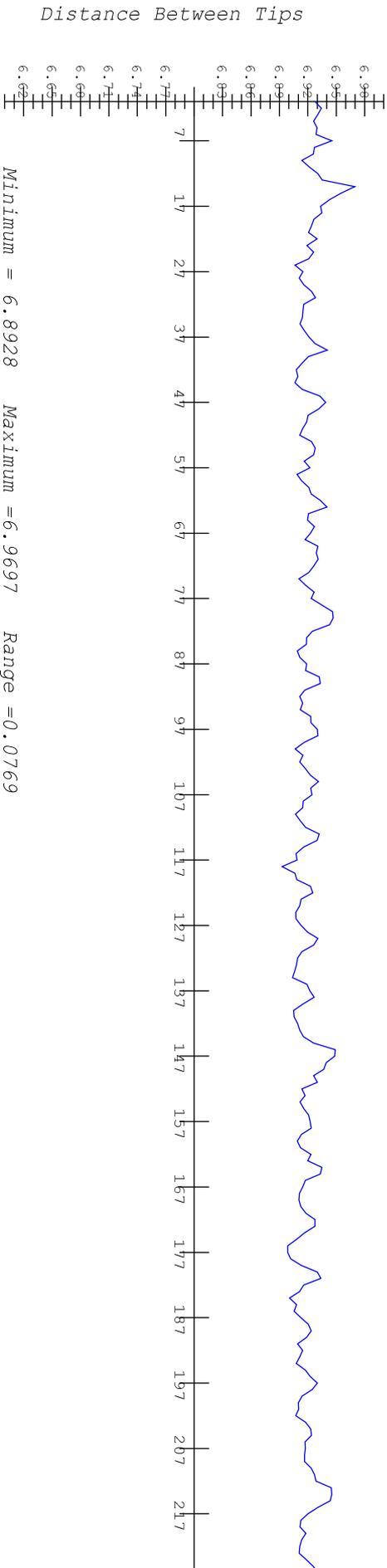
DATE: 17-NOV-2009  
 UNDULATOR # 08  
 DATASET # 0003  
 PROGRAM VERSION 2.9

# Pole Tip Number ----->



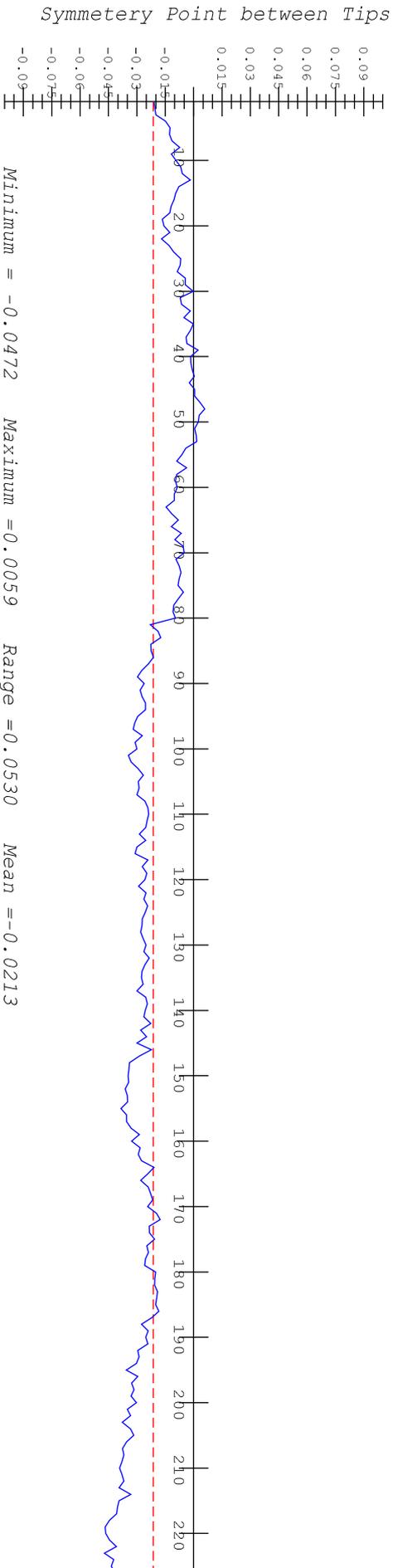
## Undulator Pole Tip Location Post Magnetic Alignment

DATE: 17-NOV-2009  
 UNDULATOR # 08  
 DATASET # 0003  
 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

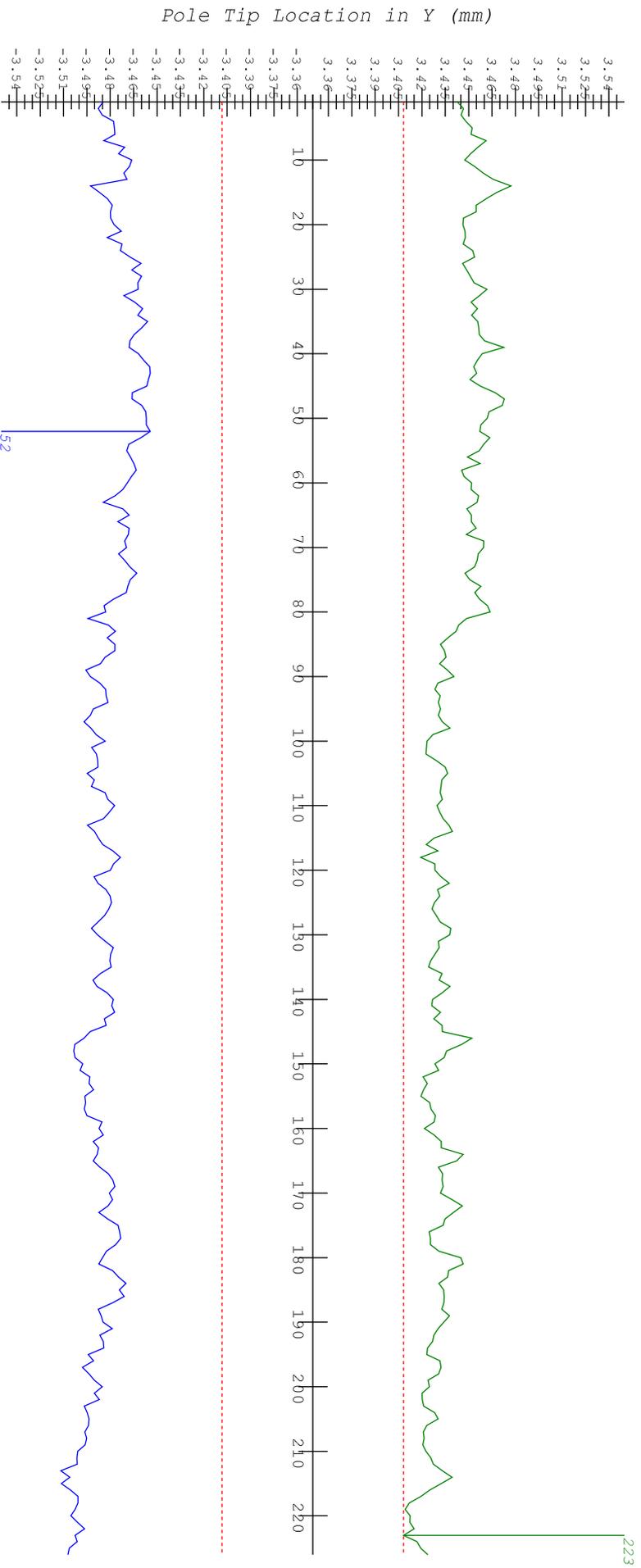


Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 17-NOV-2009  
 UNDUULATOR # 08  
 DATASET # 0003  
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Maximum Chamber Gap = 6.8165

Minimum = 3.4083    Maximum = 3.4771    Range = 0.0689



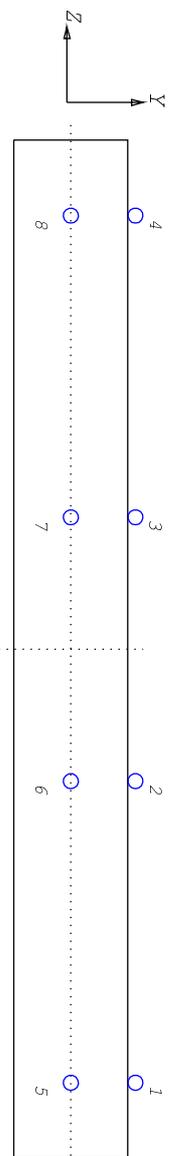
Pole Tip Number ----->

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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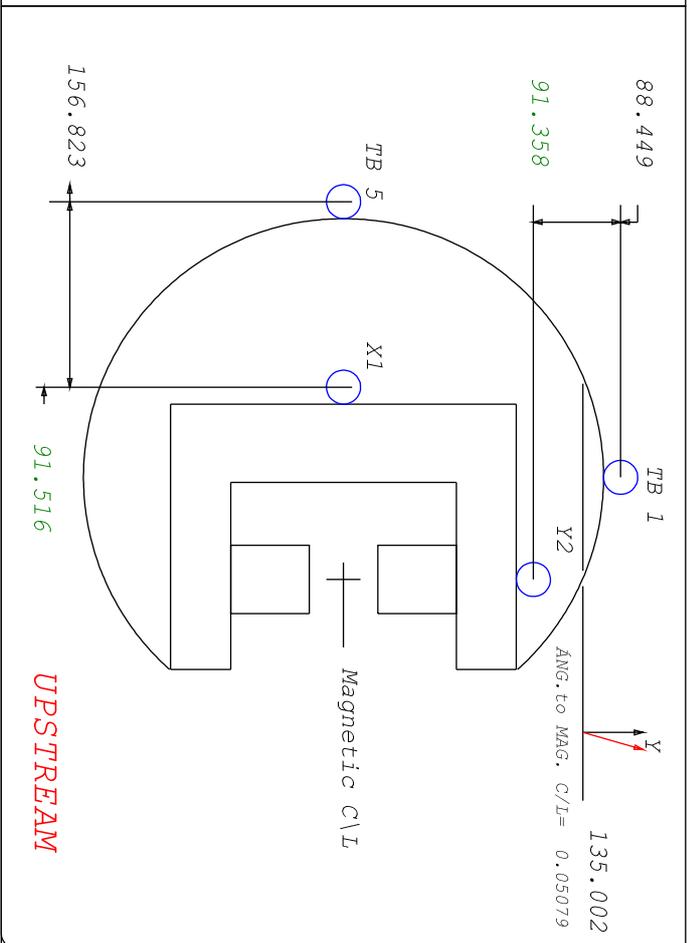
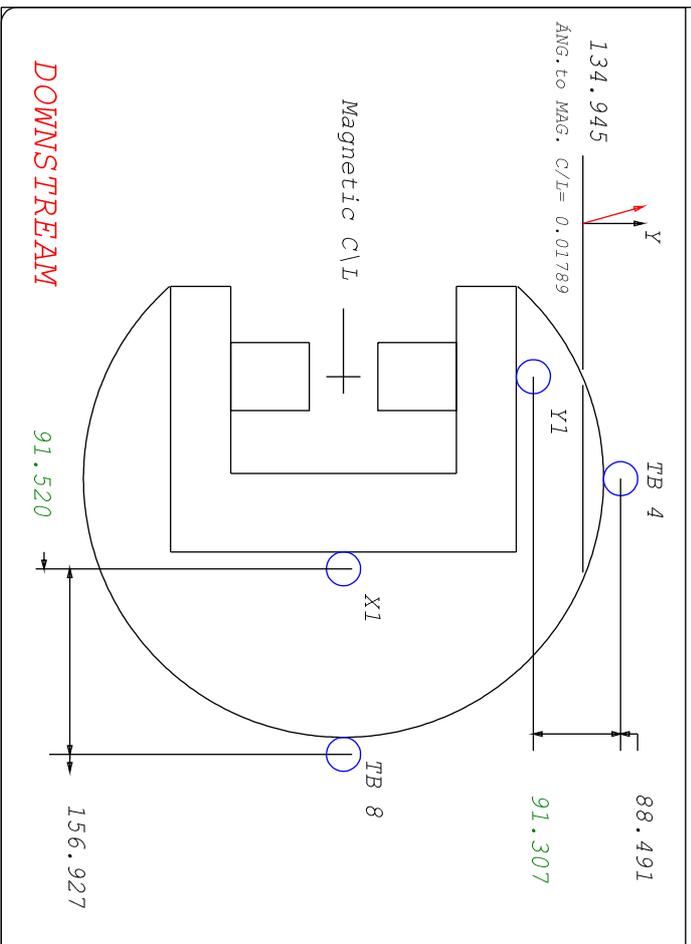
TOOLING BALL LOCATIONS

| NUM. | X        | Y        | Z         |
|------|----------|----------|-----------|
| 1    | 0.0546   | 179.8075 | -1558.288 |
| 2    | 0.1784   | 179.7513 | -584.7353 |
| 3    | 0.1938   | 179.7016 | 591.2864  |
| 4    | 0.2044   | 179.7978 | 1562.1343 |
| 5    | 248.3385 | -0.0753  | -1558.239 |
| 6    | 248.5232 | -0.0027  | -584.6425 |
| 7    | 248.4681 | 0.0116   | 591.4465  |
| 8    | 248.4470 | -0.0593  | 1562.1506 |

|                           | C/L Offset | Length   |
|---------------------------|------------|----------|
| Top Magnetic Structure    | 0.035      | 3381.010 |
| Bottom Magnetic Structure | -0.035     | 3380.911 |
| Strongback                | 0.314      | 3399.991 |

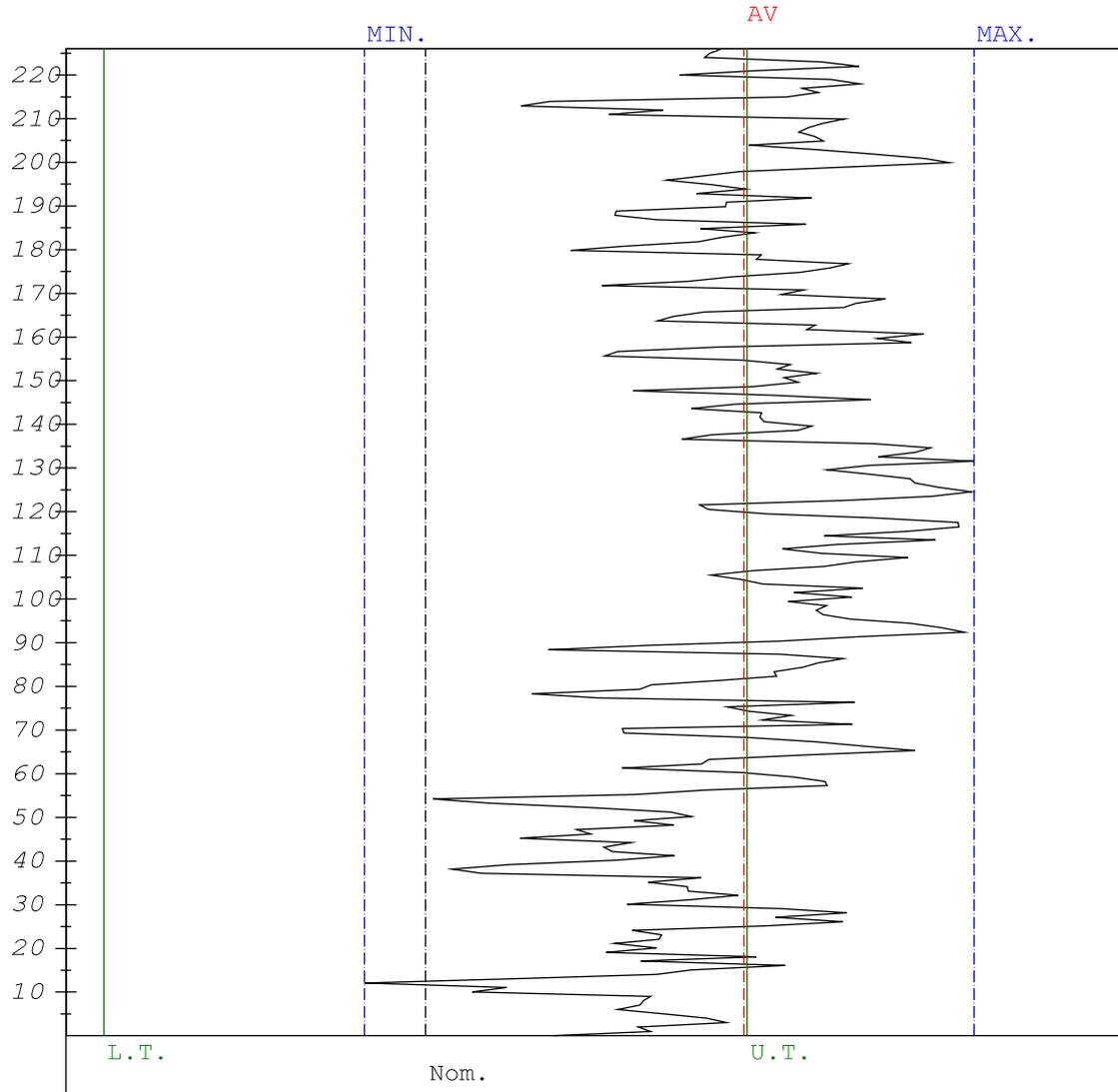
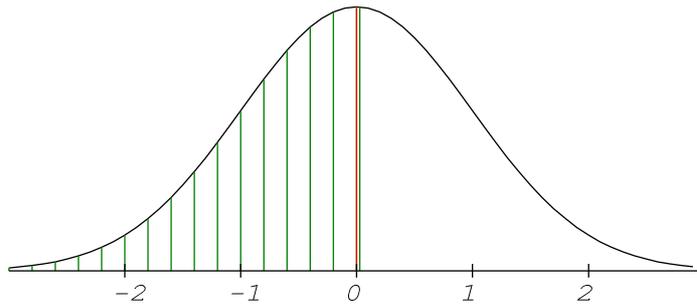
Dimensions in mm

Angles in mrad



# Undulator Dimensional Fiducialization Post Magnetic Alignment

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 PROGRAM VERSION 2.9



|                  |                     |                      |
|------------------|---------------------|----------------------|
| Nominal : 4.5000 | Averag : 4.9952     | Cent.-Dev. : 0.4952  |
| Up. Tol. : 0.5   | Maximum : 5.3531    | U.Tol.Ex. > : 48.9 % |
| Low.Tol. : -0.5  | Minimum : 4.4050    | L.Tol.Ex. < : 0.0 %  |
| Spl.Size : 226   | Stand.-Dev.: 0.1801 | In Tolerance: 51.1 % |
| Outlier : 0      | Distribution : NOR  | Dimension : mrad     |



Statistical Evaluation  
Pole Tip Gap Angle  
Post Magnetic Alignment

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UNDULATOR # 08  
DATASET # 0003  
PROGRAM VERSION 2.9