

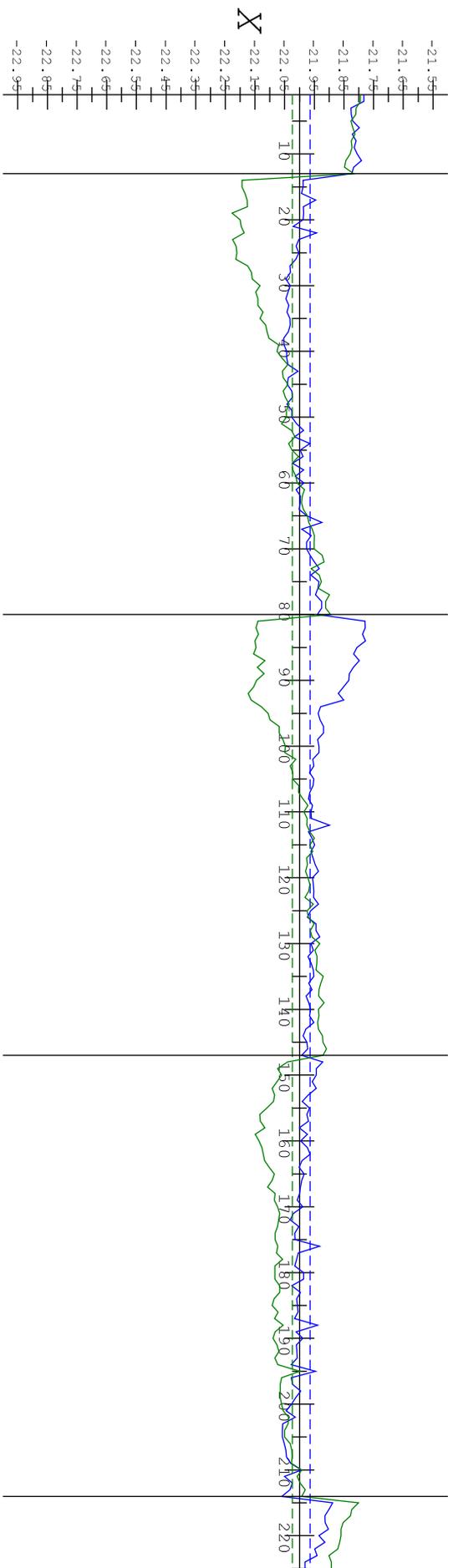
Symmetry Axis is the symmetry axis between the Upper and Lower Pole Tips  
 Included Angle is the angle between the Upper and Lower Pole Tips



Undulator Pole Tip Angles  
 Post Magnetic Alignment

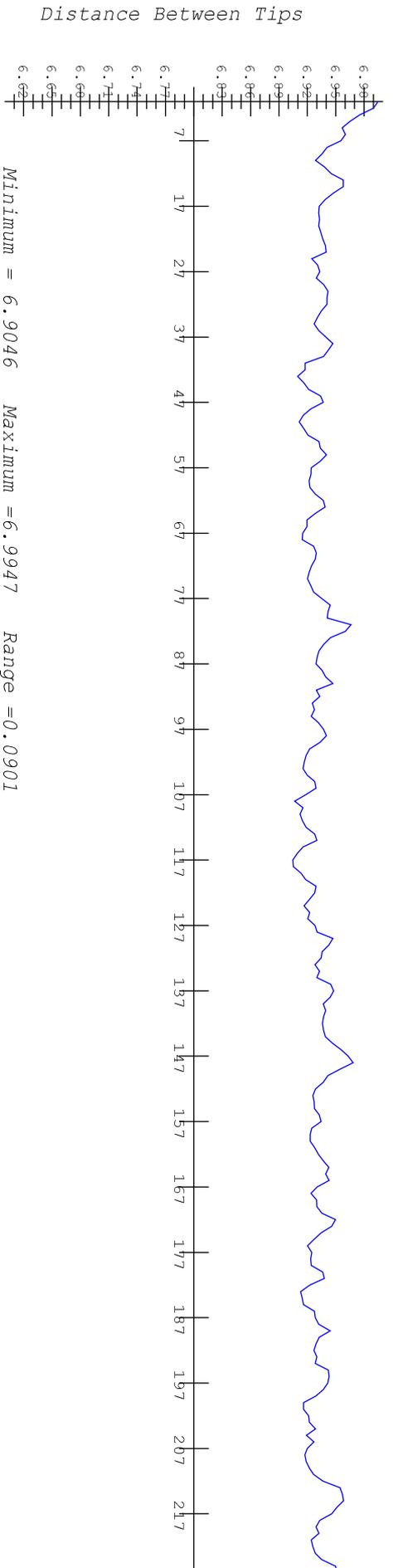
DATE: 02-FEB-2009  
 UNDUULATOR # 12  
 DATASET # 0003  
 PROGRAM VERSION 2.8

# Pole Tip Number ----->

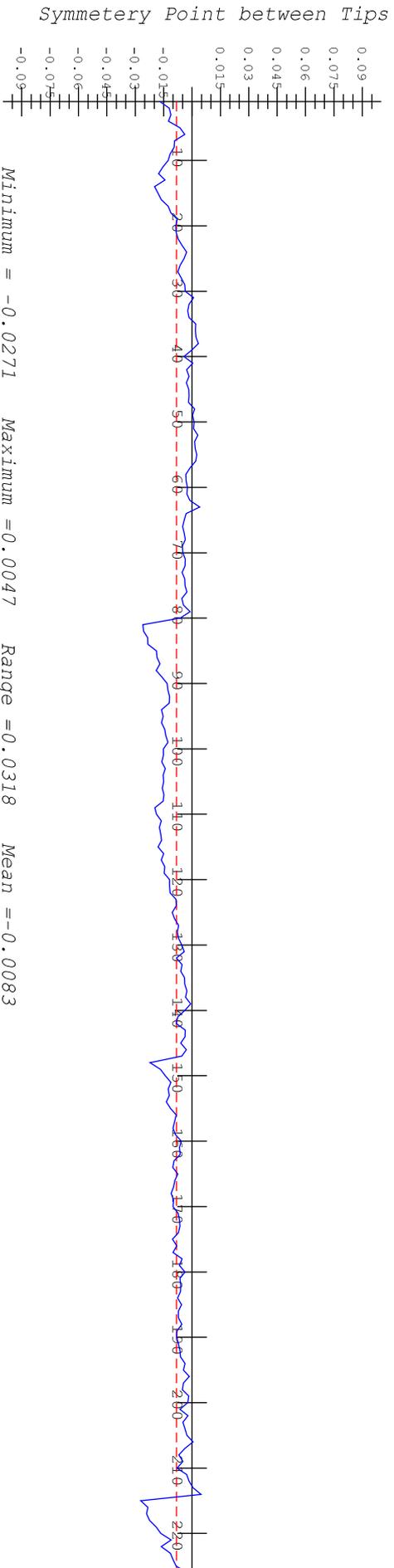


Undulator Pole Tip Location  
 Post Magnetic Alignment

DATE: 02-FEB-2009  
 UNDULATOR # 12  
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 PROGRAM VERSION 2.8



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



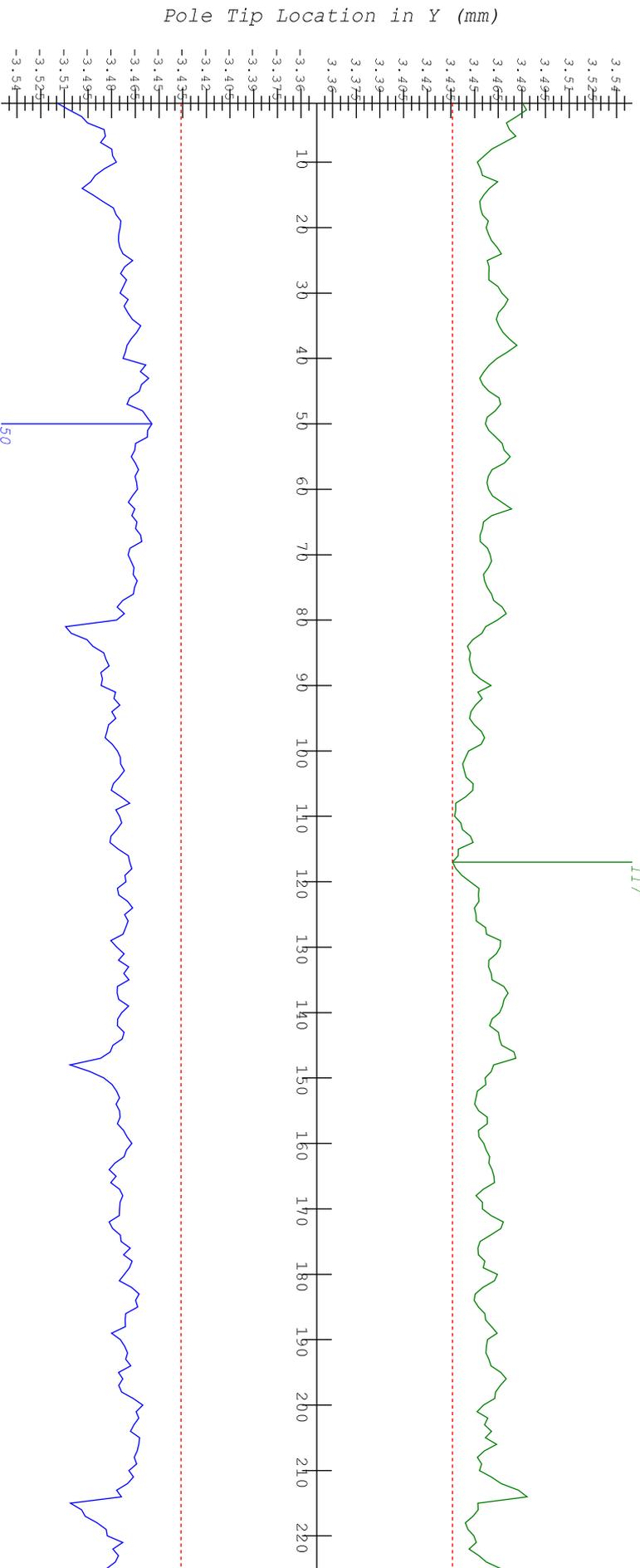
NATIONAL ACCELERATOR LABORATORY  
MMF GRE 45129

Undulator Pole Tip Location  
Post Magnetic Alignment

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Maximum Chamber Gap = 6.8720

Minimum = 3.4360    Maximum = 3.4832    Range = 0.0472



Minimum = -3.5143    Maximum = -3.4545    Range = 0.0597

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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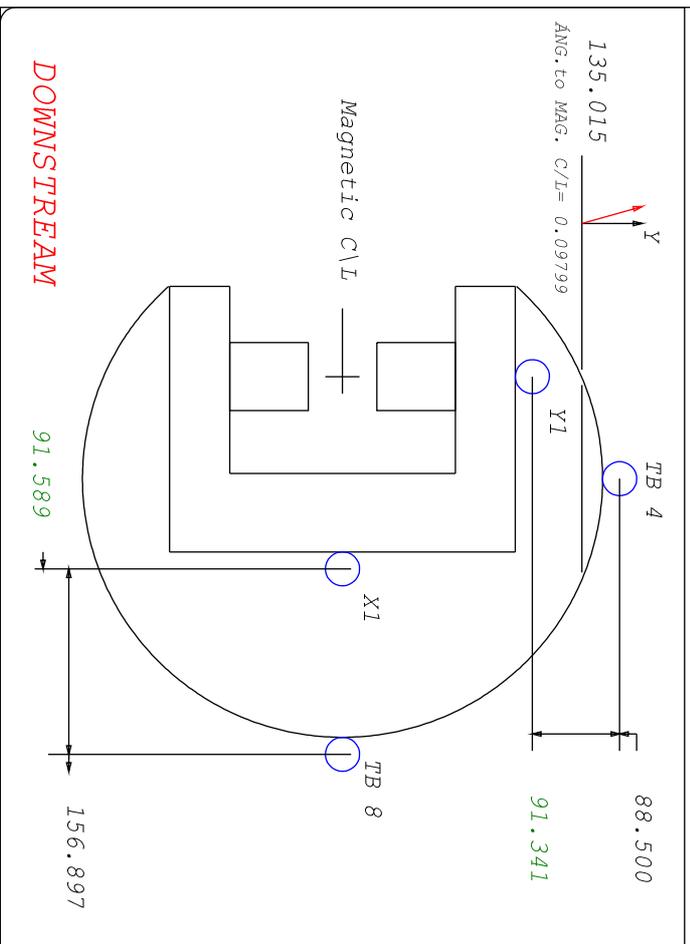
TOOLING BALL LOCATIONS

NUM.	X	Y	Z
1	0.2174	179.8349	-1558.537
2	0.3899	179.7637	-584.8975
3	0.3064	179.7894	591.0680
4	0.3167	179.8413	1561.9567
5	248.5771	0.1199	-1558.530
6	248.6321	0.0791	-584.8868
7	248.6068	0.0521	591.2649
8	248.4861	0.1218	1562.0348

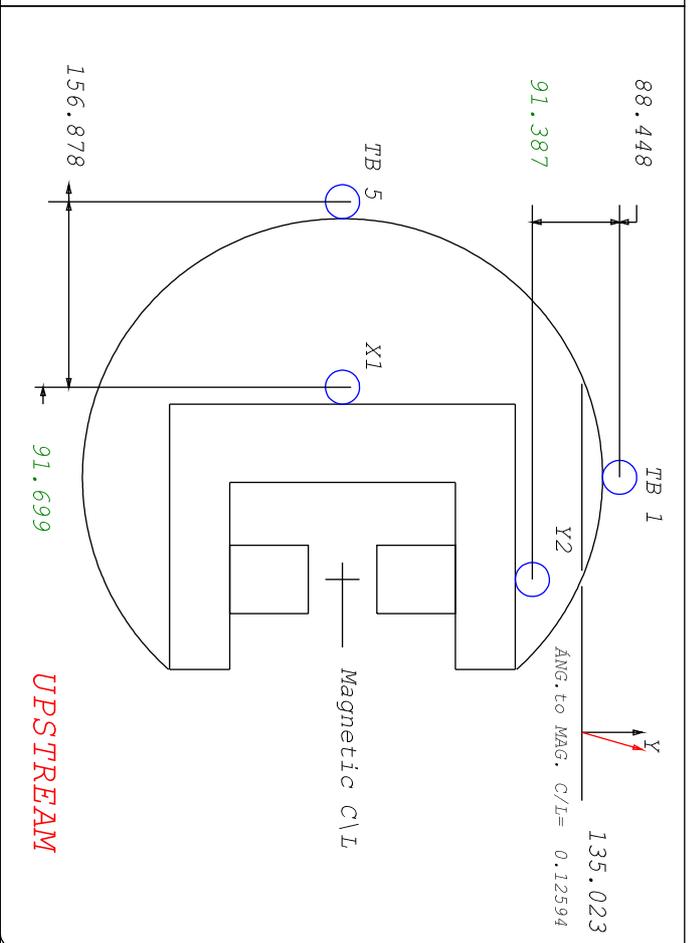
	C/L Offset	Length
Top Magnetic Structure	0.006	3381.300
Bottom Magnetic Structure	-0.006	3381.281
Strongback	0.101	3399.990

Dimensions in mm

Angles in mrad



DOWNSTREAM



UPSTREAM



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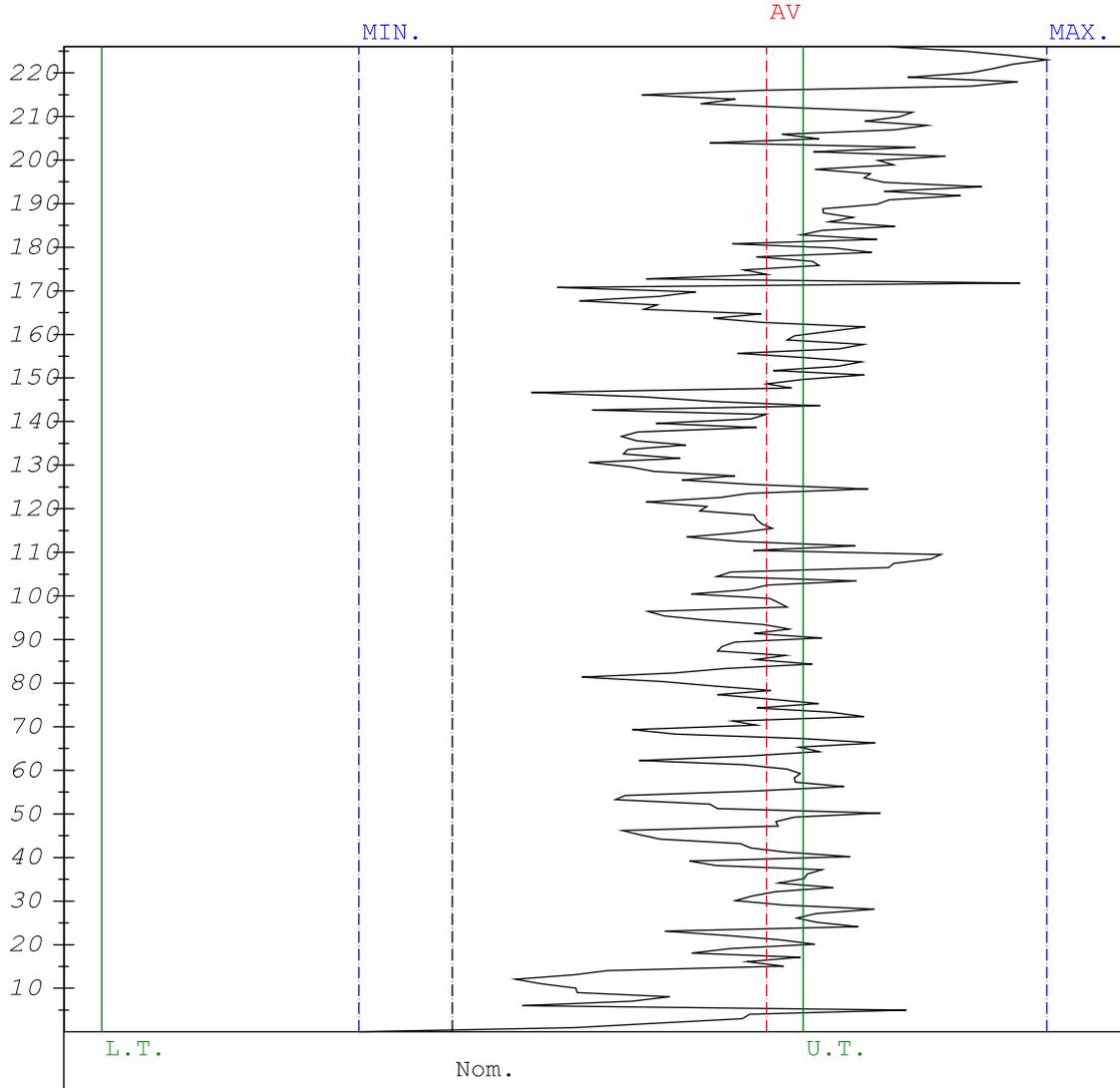
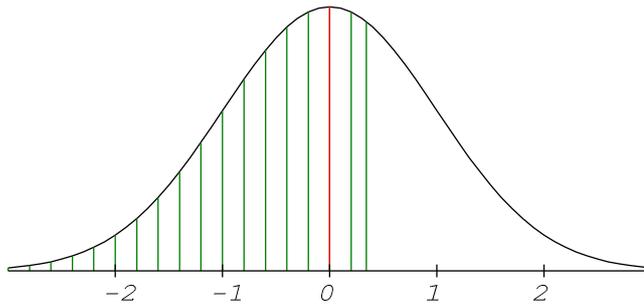
# Undulator Dimensional Fiducialization Post Magnetic Alignment

DATE: 02-FEB-2009

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DATASET # 0003

PROGRAM VERSION 2.8



Nominal : 4.5000	Averag : 4.948	Cent.-Dev. : 0.448
Up. Tol. : 0.5	Maximum : 5.3473	U.Tol.Ex. > : 36.7 %
Low.Tol. : -0.5	Minimum : 4.3669	L.Tol.Ex. < : 0.0 %
Spl.Size : 226	Stand.-Dev.: 0.1524	In Tolerance: 63.3 %
Outlier : 0	Distribution : NOR	Dimension : mrad



Statistical Evaluation  
Pole Tip Gap Angle  
Post Magnetic Alignment

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