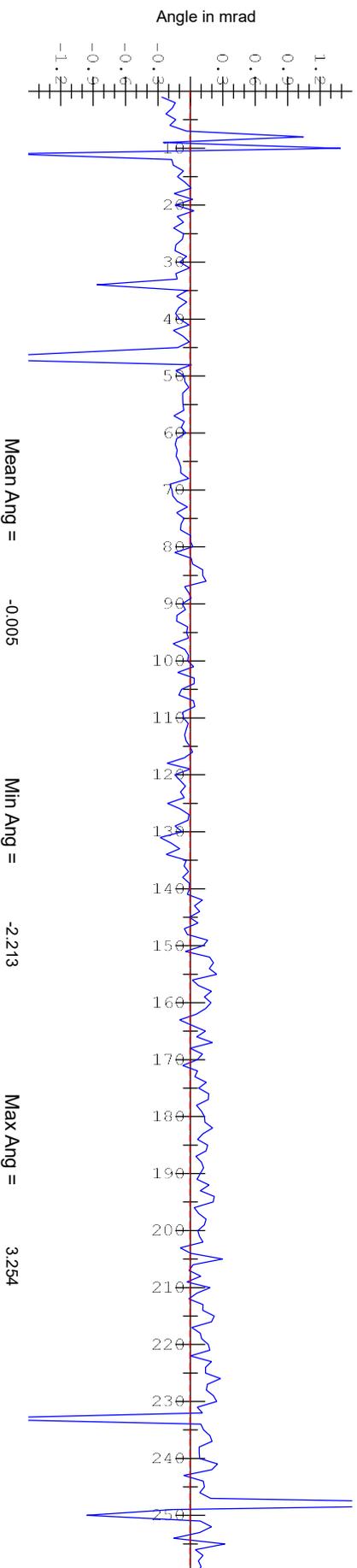


### Included Angle Between Pole Tips

Pole Tip Num. ----->

### Angle of Symmetry Line between Pole Tips to Tuning Gap ZX Plane



Dimensions in MM, Angles in Milliradians



**NATIONAL ACCELERATOR LABORATORY  
METROLOGY**

## HGVPV - Pole Tip Angles

**Nominal Gap :** 20.000    **US Full :** 20.0001    **DS Full :** 20.0001

**Nom. Taper :** 0.000    **US Wall Half :** 9.9933    **DS Wall Half :** 9.9934

**US Aisle Half :** 9.9934    **DS Aisle Half :** 9.9929

**S/N :** HXU 012

**Date :** 11-MAR-2020

**Data Set :** 0001

**Run :** FINAL

**Cam Pos. :** B



**Values Calculated from Regression Line End Points**

| Dimension              | X Value | Y Value | Z Value  | Calc. Value |
|------------------------|---------|---------|----------|-------------|
| US Aisle Pole Tip(1)   | 9.995   | 0.000   | 8.750    |             |
| US Wall Pole Tip(1)    | -10.024 | 0.000   | 8.750    |             |
| US Sym. Pt.            | -0.015  |         |          |             |
| US Gap                 |         |         |          | 20.019      |
| DS Aisle Pole Tip(260) | 10.005  | 0.000   | 3375.750 |             |
| DS Wall Pole Tip(260)  | -10.013 | 0.000   | 3375.750 |             |
| DS Sym. Pt.            | -0.004  |         |          |             |
| DS Gap                 |         |         |          | 20.018      |
| Taper                  |         |         |          | -0.001      |

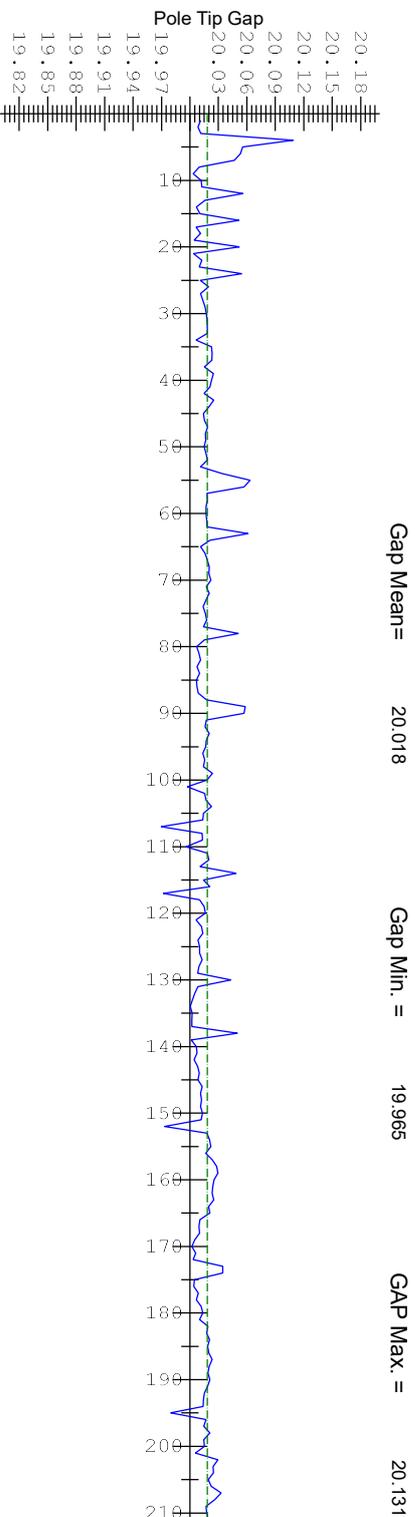
Dimensions in MM



**HGVPU - Gap Calc. from Regression Line End Points**

|                 |        |                 |         |                 |         |
|-----------------|--------|-----------------|---------|-----------------|---------|
| Nominal Gap :   | 20.000 | US Full :       | 20.0001 | DS Full :       | 20.0001 |
| US Wall Half :  | 9.9933 | US Wall Half :  | 9.9933  | DS Wall Half :  | 9.9934  |
| US Aisle Half : | 9.9934 | US Aisle Half : | 9.9934  | DS Aisle Half : | 9.9929  |
| Nom. Taper :    | 0.000  |                 |         |                 |         |

|          |               |
|----------|---------------|
| S/N      | : HXU_012     |
| Date     | : 11-MAR-2020 |
| Data Set | : 0001        |
| Run      | : FINAL       |
| Cam Pos. | : B           |

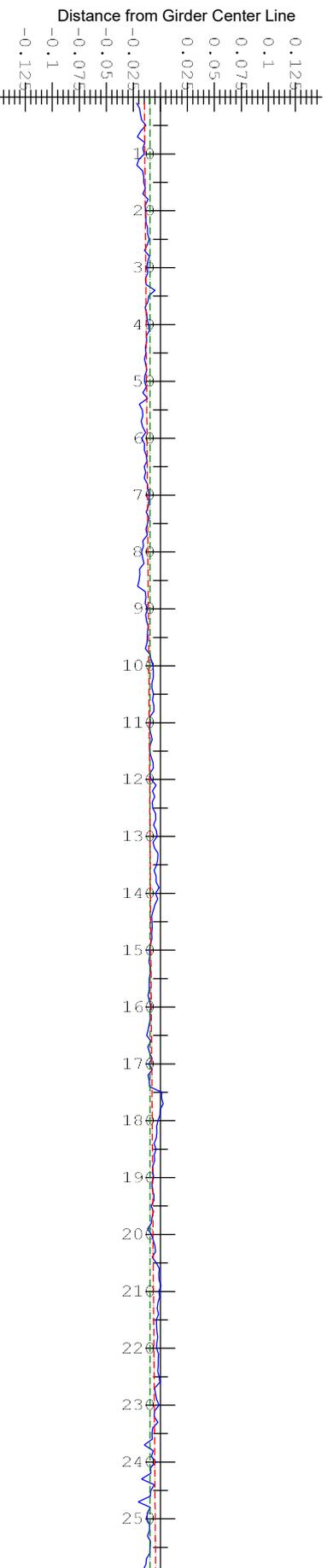


### Pole Tip Gap at Nom. Beam Height

Blue = Pole Tip points  
 Green = Mean line  
 Red = Regression line thru points

Pole Tip Num. ----->

### Pole Tip Symmetry Point at Nom. Beam Height



### Girder centerline in reference to Pointed Magnets

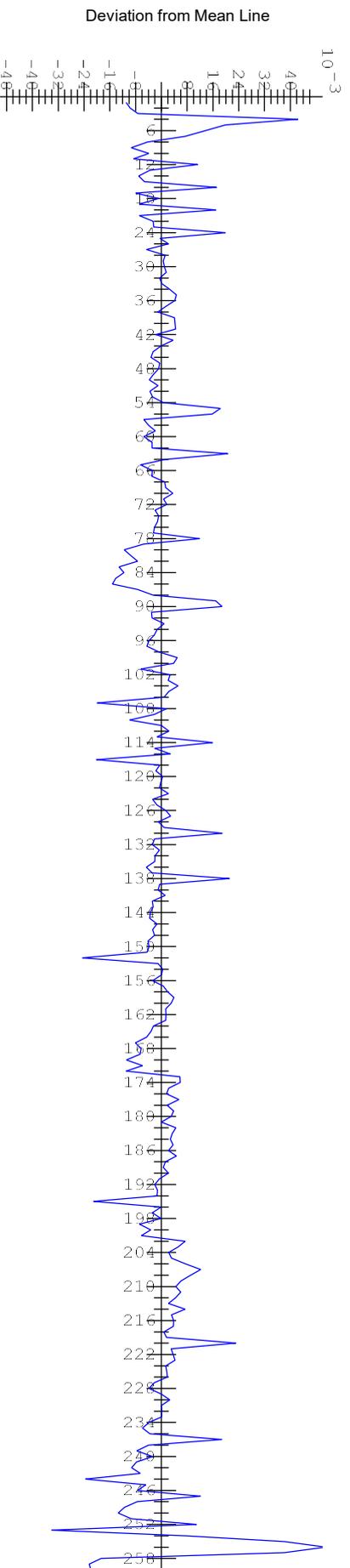
Dimensions in MM, Angles in Milliradians



### HGVPU - Pole Tip Gap and Symmetry Point Location

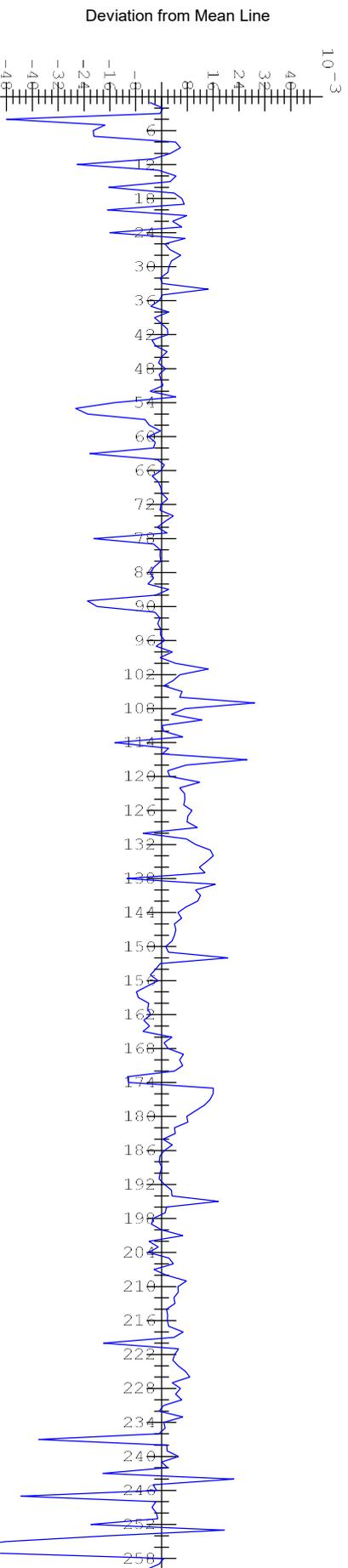
|               |        |                 |         |                 |         |
|---------------|--------|-----------------|---------|-----------------|---------|
| Nominal Gap : | 20.000 | US Full :       | 20.0001 | DS Full :       | 20.0001 |
| Nom. Taper :  | 0.000  | US Wall Half :  | 9.9933  | DS Wall Half :  | 9.9934  |
|               |        | US Aisle Half : | 9.9934  | DS Aisle Half : | 9.9929  |

|          |               |
|----------|---------------|
| S/N      | : HXU 012     |
| Date     | : 11-MAR-2020 |
| Data Set | : 0001        |
| Run      | : FINAL       |
| Cam Pos. | : B           |



### Aisle Pole Tips

### Wall Pole Tips



## Pole Tip Deviations from Jaw Mean Lines when aligned to actual Gap Sym. Plane

Dimensions in MM



### HGVPU - Pole Tip Deviation from Mean Line

|               |        |                 |         |                 |         |
|---------------|--------|-----------------|---------|-----------------|---------|
| Nominal Gap : | 20.000 | US Full :       | 20.0001 | DS Full :       | 20.0001 |
| Nom. Taper :  | 0.000  | US Wall Half :  | 9.9933  | DS Wall Half :  | 9.9934  |
|               |        | US Aisle Half : | 9.9934  | DS Aisle Half : | 9.9929  |

|          |               |
|----------|---------------|
| S/N      | : HXU_012     |
| Date     | : 11-MAR-2020 |
| Data Set | : 0001        |
| Run      | : FINAL       |
| Cam Pos. | : B           |