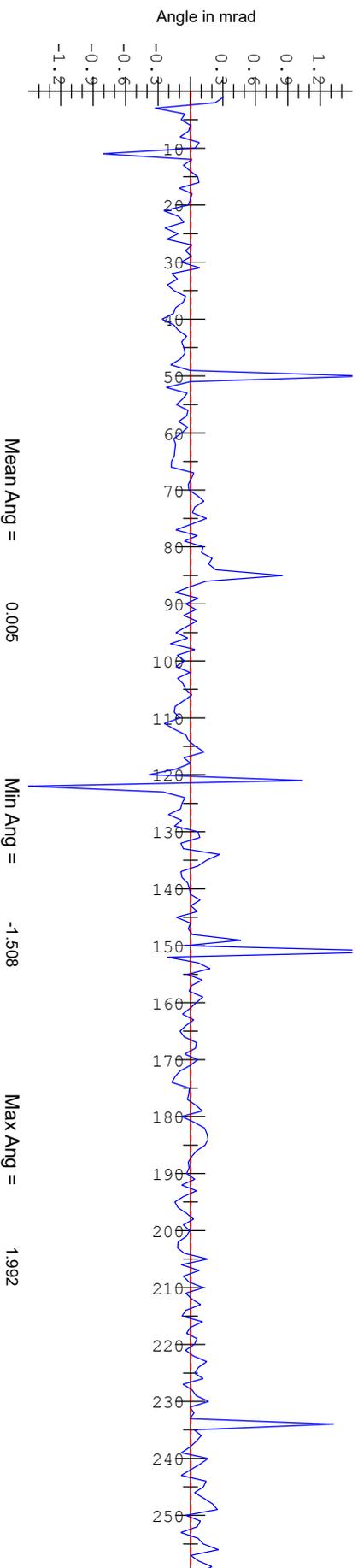


Included Angle Between Pole Tips

Pole Tip Num. ----->

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



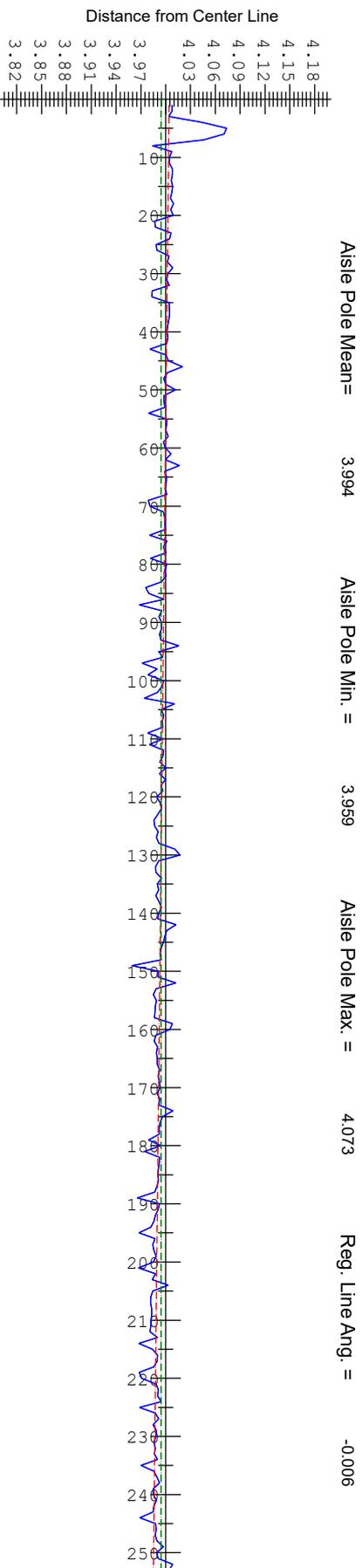
Dimensions in MM, Angles in Milliradians



HGVPU - Pole Tip Angles

| | | | | | |
|----------------------|---------------|------------------------|---------------|------------------------|---------------|
| Nominal Gap : | 8.000 | US Full : | 7.9997 | DS Full : | 7.9000 |
| Nom. Taper : | -0.100 | US Wall Half : | 4.0019 | DS Wall Half : | 3.9511 |
| | | US Aisle Half : | 4.0023 | DS Aisle Half : | 3.9540 |

| | |
|-----------------|----------------------|
| S/N | : HXU 014 |
| Date | : 25-AUG-2020 |
| Data Set | : 0001 |
| Run | : FINAL |
| Cam Pos. | : B |



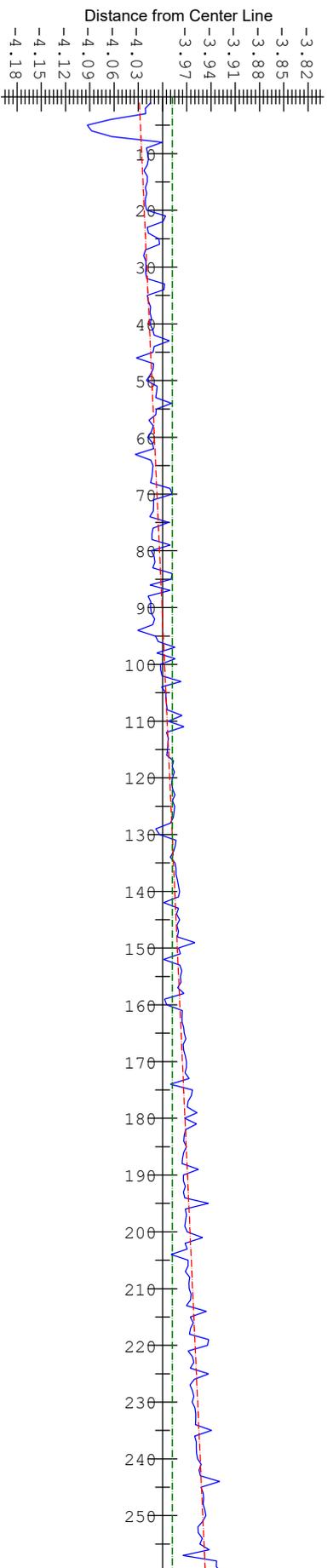
Aisle Pole Tips at Nom. Beam Height

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

Pole Tip Num. ----->

Wall Pole Tips at Nom. Beam Height

Minimum Clearance Gap = 7.855



Girder centerline in reference to Pointed Magnets

Dimensions in MM, Angles in Milliradians

SLAC
NATIONAL ACCELERATOR LABORATORY
METROLOGY

HGVPU - Pole Tip Location from Girder Centerline

| | | | | | |
|---------------|--------|-----------------|--------|-----------------|--------|
| Nominal Gap : | 8.000 | US Full : | 7.9997 | DS Full : | 7.9000 |
| Nom. Taper : | -0.100 | US Wall Half : | 4.0019 | DS Wall Half : | 3.9511 |
| | | US Aisle Half : | 4.0023 | DS Aisle Half : | 3.9540 |

| | |
|----------|---------------|
| S/N | : HXU_014 |
| Date | : 25-AUG-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) | 4.004 | 0.000 | 8.750 | |
| US Wall Pole Tip(1) | -4.029 | 0.000 | 8.750 | |
| US Sym. Pt. | -0.012 | | | |
| US Gap | | | | 8.033 |
| DS Aisle Pole Tip(260) | 3.985 | 0.000 | 3375.750 | |
| DS Wall Pole Tip(260) | -3.947 | 0.000 | 3375.750 | |
| DS Sym. Pt. | 0.019 | | | |
| DS Gap | | | | 7.932 |
| Taper | | | | -0.101 |

Dimensions in MM



HGVPU - Gap Calc. from Regression Line End Points

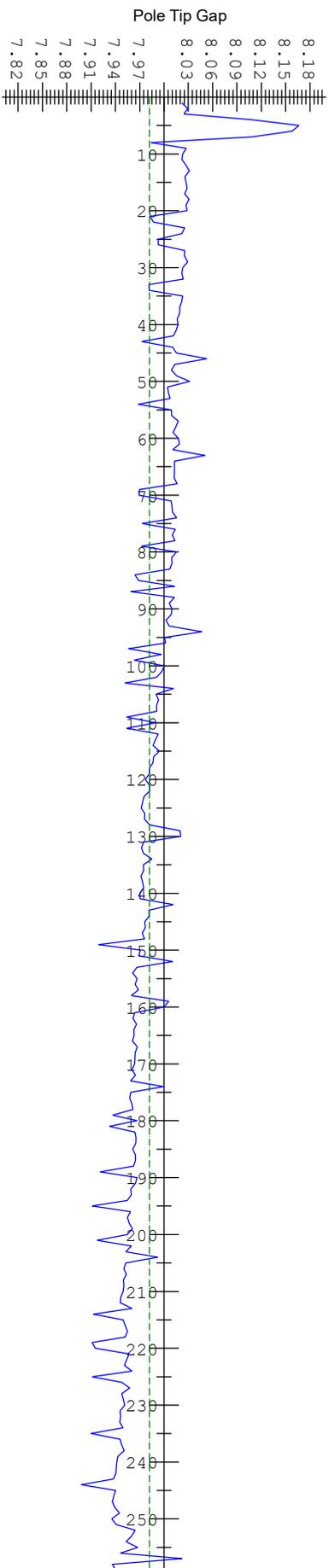
| | | | | | |
|---------------|--------|-----------------|--------|-----------------|--------|
| Nominal Gap : | 8.000 | US Full : | 7.9997 | DS Full : | 7.9000 |
| Nom. Taper : | -0.100 | US Wall Half : | 4.0019 | DS Wall Half : | 3.9511 |
| | | US Aisle Half : | 4.0023 | DS Aisle Half : | 3.9540 |

| | |
|----------|---------------|
| S/N | : HXU_014 |
| Date | : 25-AUG-2020 |
| Data Set | : 0001 |
| Run | : FINAL |
| Cam Pos. | : B |

Gap Mean = 7.982

Gap Min. = 7.898

Gap Max. = 8.167

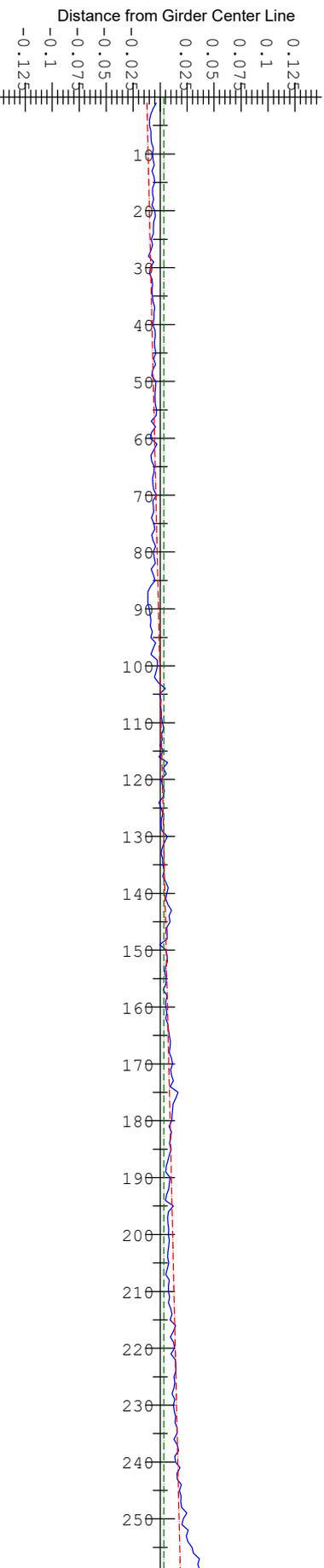


Pole Tip Gap at Nom. Beam Height

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

Pole Tip Num. ----->

Pole Tip Symmetry Point at Nom. Beam Height



Sym. Mean =

0.003

Sym. Min. =

-0.011

Sym. Max. =

0.038

Reg. Line Ang. =

0.009

Girder centerline in reference to Pointed Magnets

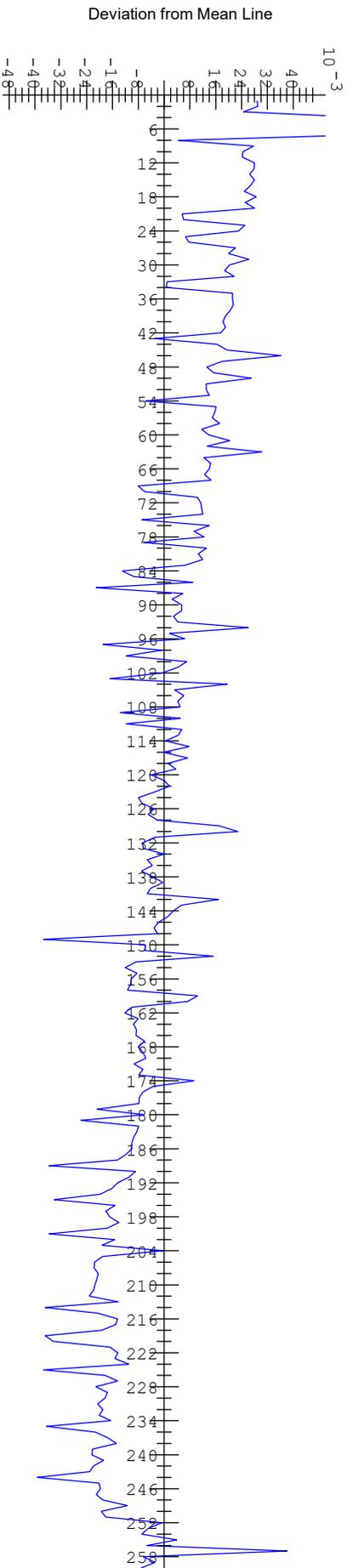
Dimensions in MM, Angles in Milliradians



HGVPU - Pole Tip Gap and Symmetry Point Location

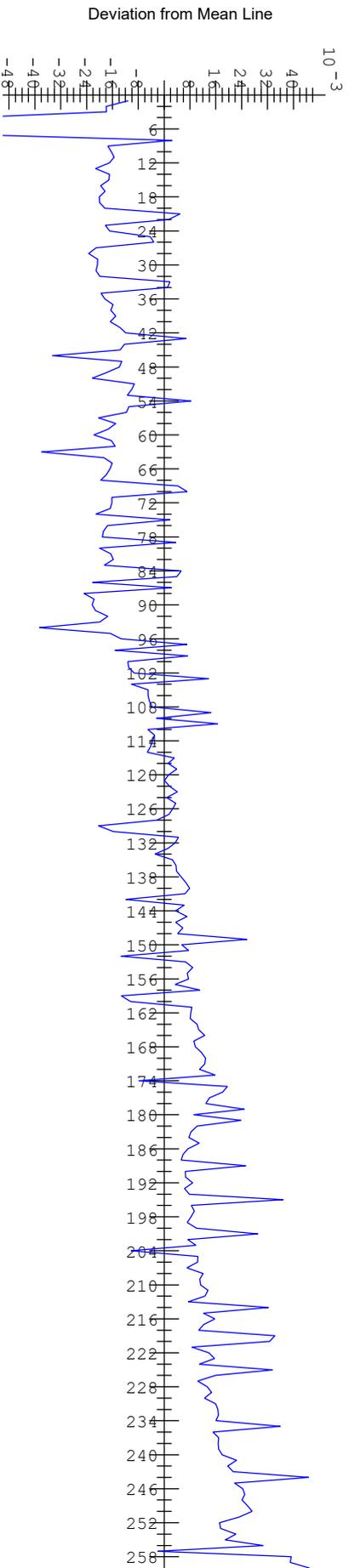
| | | | | | |
|----------------|--------|-----------------|--------|-----------------|--------|
| Nominal Gap : | 8.000 | US Full : | 7.9997 | DS Full : | 7.9000 |
| US Wall Half : | 4.0019 | US Aisle Half : | 4.0023 | DS Wall Half : | 3.9511 |
| Nom. Taper : | -0.100 | US Aisle Half : | 4.0023 | DS Aisle Half : | 3.9540 |

| | |
|----------|---------------|
| S/N | : HXU_014 |
| Date | : 25-AUG-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 : | 8.000 | US Full : | 7.9997 | DS Full : | 7.9000 |
| Nom. Taper : | -0.100 | US Wall Half : | 4.0019 | DS Wall Half : | 3.9511 |
| | | US Aisle Half : | 4.0023 | DS Aisle Half : | 3.9540 |

| | |
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| Data Set | : 0001 |
| Run | : FINAL |
| Cam Pos. | : B |