## Top Jaw Pole Tips

Y Dev. from Mean

$10^{-3}$

Mean TOP = 6.0206    Regression Line Ang. (mrad) = -0.0046

Pole Tip Num. ---->

## Bottom Jaw Pole Tips

Minimum Effective Gap = 11.978

Y Dev. from Mean

$10^{-3}$

Mean BTM = -5.9857    Regression Line Ang. (mrad) = -0.0105

Y Value Scales Centered on Mean Values
Step Between Measured Pole Tips = 10

Regression Line Through Points = _____
Dimensions in mm



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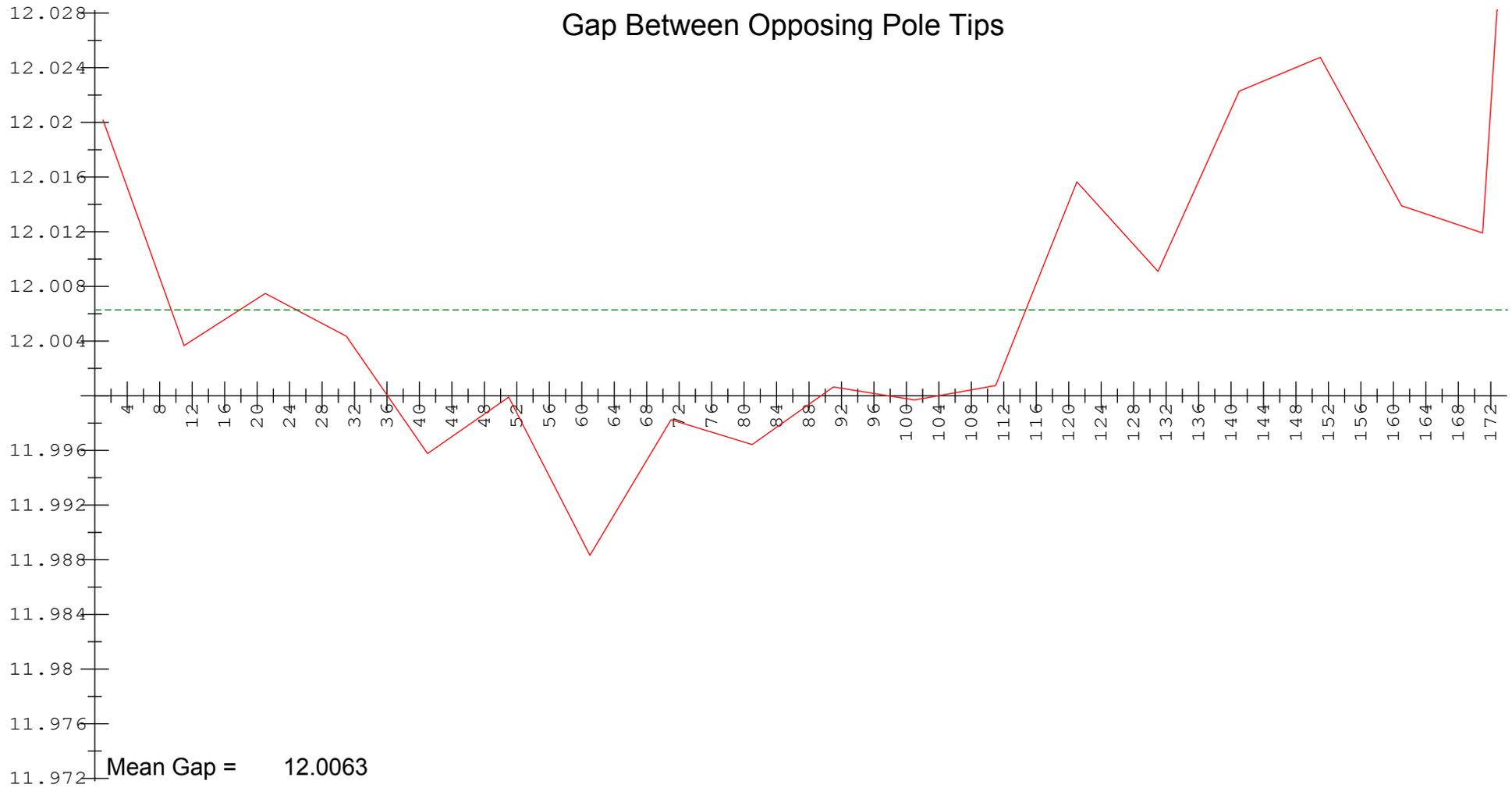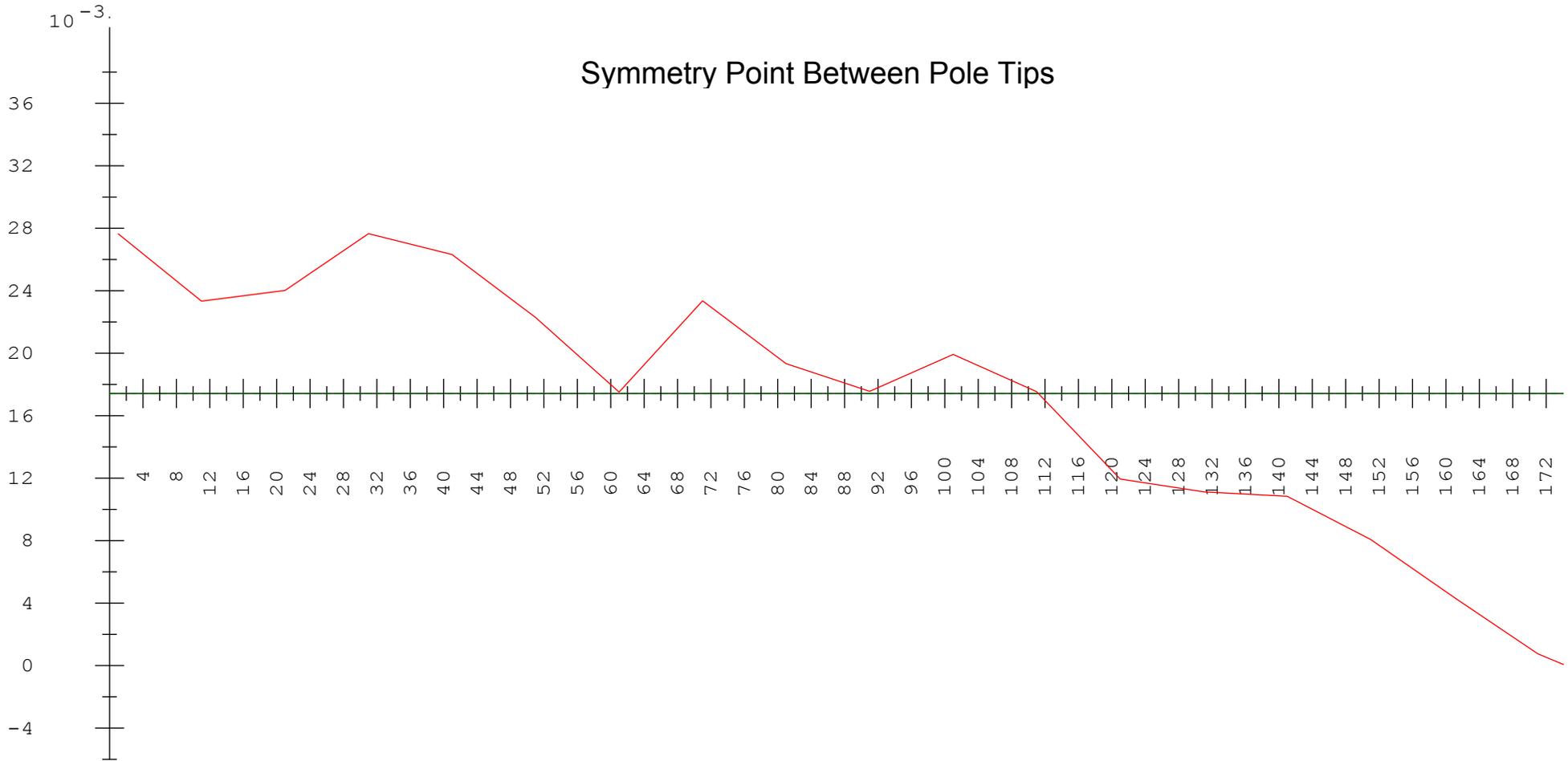**METROLOGY**

## LCLS II - SXR Undulator

Nominal Gap = 12    Nominal Taper = 0.000
Gap Reading = 12.0001    US Encoder = 12.0001    DS Encoder = 12.0001

19-APR-2018
S/N = 009
D/S = 0001
Run = 7

# Gap Between Opposing Pole Tips

12.028
12.024
12.02
12.016
12.012
12.008
12.004

11.996
11.992
11.988
11.984
11.98
11.976
11.972

Mean Gap =    12.0063

Step Between Measured Pole Tips =   10

Dimensions in mm

## Symmetry Point Between Pole Tips



Mean Symmetry Value =     0.0174

Step Between Measured Pole Tips =   10

Dimensions in mm

| SLAC NATIONAL ACCELERATOR LABORATORY | **LCLS II - SXR Undulator** | 19-APR-2018 |
| METROLOGY | **Nominal Gap = 12**     **Nominal Taper = 0.000** <br> Gap Reading = 12.0001     US Encoder  = 12.0001     DS Encoder  = 12.0001 | S/N =   009 <br> D/S=   0001 <br> Run=   7 |

## Top and Bottom Jaw
## Regression Line Intersect Points

| Jaw | First Pole (Pole 1) | US Actuator (Pole 39) | DS Actuator (Pole 135) | Last Pole (Pole 174) |
|---|---|---|---|---|
| **Top** | 6.0286 | 6.0251 | 6.0166 | 6.0131 |
| **Bottom** | -5.9691 | -5.9769 | -5.9966 | -6.0046 |
| **Gap** | 11.9977 | | | 12.0177 |
| **Taper** | | | | 0.0200 |

## Summary of Mean Values

| Top Jaw Poles | Btm. Jaw Poles | Gap Values | Sym. Pt. Values |
|---|---|---|---|
| 6.0206 | -5.9857 | 12.0063 | 0.0174 |

## Additional Calculated Values

| | |
|---|---|
| **Bottom Pole #1 Z Value** | 979.421 |
| **Top Jaw Pitch (mrad)** | -0.005 |
| **Bottom Jaw Pitch(mrad)** | -0.011 |
| **Minimum Effective Gap** | 11.978 |
| **Reference Block Gap** | 6.806 |

Dimensions in mm

**SLAC**
NATIONAL ACCELERATOR LABORATORY
METROLOGY

# LCLS II - SXR Undulator
## Nominal Gap = 12    Nominal Taper = 0.000
Gap Reading = 12.0001    US Encoder = 12.0001    DS Encoder = 12.0001

19-APR-2018
S/N = 009
D/S= 0001
Run= 7