# Top Jaw Pole Tips

$10^{-3}$

Y Dev. from Mean

Mean TOP = 5.0658          Regression Line Ang. (mrad) = -0.0017

Pole Tip Num. ---->          # Bottom Jaw Pole Tips          Minimum Effective Gap = 10.026

$10^{-3}$

Y Dev. from Mean

Mean BTM = -5.0528          Regression Line Ang. (mrad) = -0.0298

Y Value Scales Centered on Mean Values                    Regression Line Through Points = ———
Step Between Measured Pole Tips = 1                       Dimensions in mm

Gap Between Opposing Pole Tips



Mean Gap =        10.1186

Step Between Measured Pole Tips =     1

Dimensions in mm

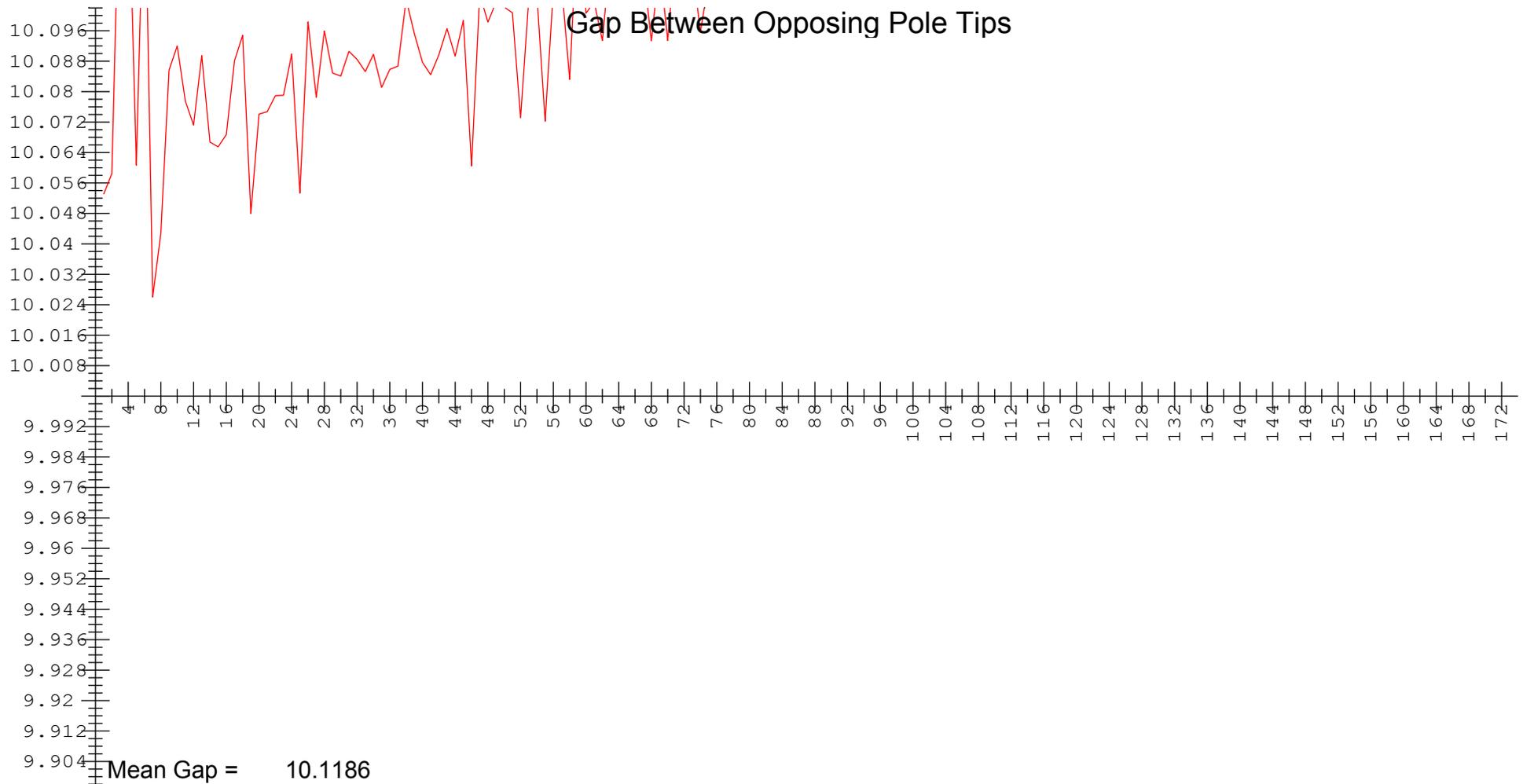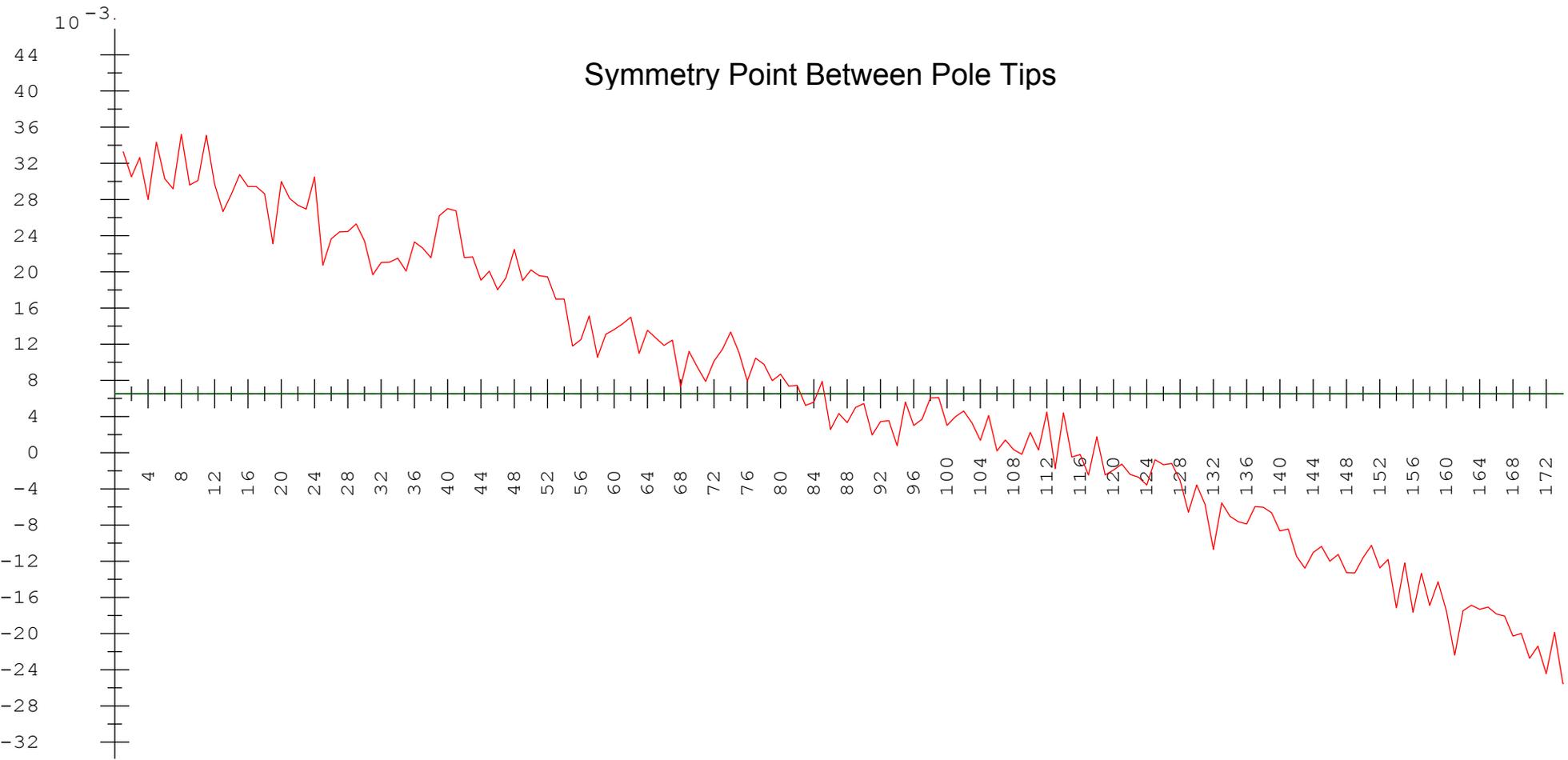## LCLS II - SXR Undulator

Nominal Gap = 10        Nominal Taper = 0.100

Gap Reading = 10.0500        US Encoder  = 10.0000        DS Encoder  = 10.1000

NATIONAL ACCELERATOR LABORATORY

METROLOGY

17-APR-2019
S/N =    002
D/S=    0001
Run=    10

# Symmetry Point Between Pole Tips



Mean Symmetry Value =      0.0065

Step Between Measured Pole Tips =    1

Dimensions in mm

| SLAC NATIONAL ACCELERATOR LABORATORY METROLOGY | **LCLS II - SXR Undulator** | 17-APR-2019 |
|---|---|---|
| | Nominal Gap = 10      Nominal Taper = 0.100 | S/N =   002 |
| | Gap Reading = 10.0500    US Encoder = 10.0000    DS Encoder = 10.1000 | D/S=   0001 |
| | | Run=   10 |

# 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** | 5.0686 | 5.0674 | 5.0643 | 5.0630 |
| **Bottom** | -5.0025 | -5.0246 | -5.0804 | -5.1030 |
| **Gap** | 10.0711 | | | 10.1660 |
| **Taper** | | | | 0.0949 |

# Summary of Mean Values

| Top Jaw Poles | Btm. Jaw Poles | Gap Values | Sym. Pt. Values |
|---|---|---|---|
| 5.0658 | -5.0528 | 10.1186 | 0.0065 |

# Additional Calculated Values

| | |
|---|---|
| **Bottom Pole #1 Z Value** | 980.301 |
| **Top Jaw Pitch (mrad)** | -0.002 |
| **Bottom Jaw Pitch(mrad)** | -0.030 |
| **Minimum Effective Gap** | 10.026 |
| **Reference Block Gap** | 6.810 |

Dimensions in mm

**SLAC**
NATIONAL ACCELERATOR LABORATORY
METROLOGY

## LCLS II - SXR Undulator
Nominal Gap = 10          Nominal Taper = 0.100
Gap Reading = 10.0500     US Encoder = 10.0000     DS Encoder = 10.1000

17-APR-2019
S/N = 002
D/S= 0001
Run= 10