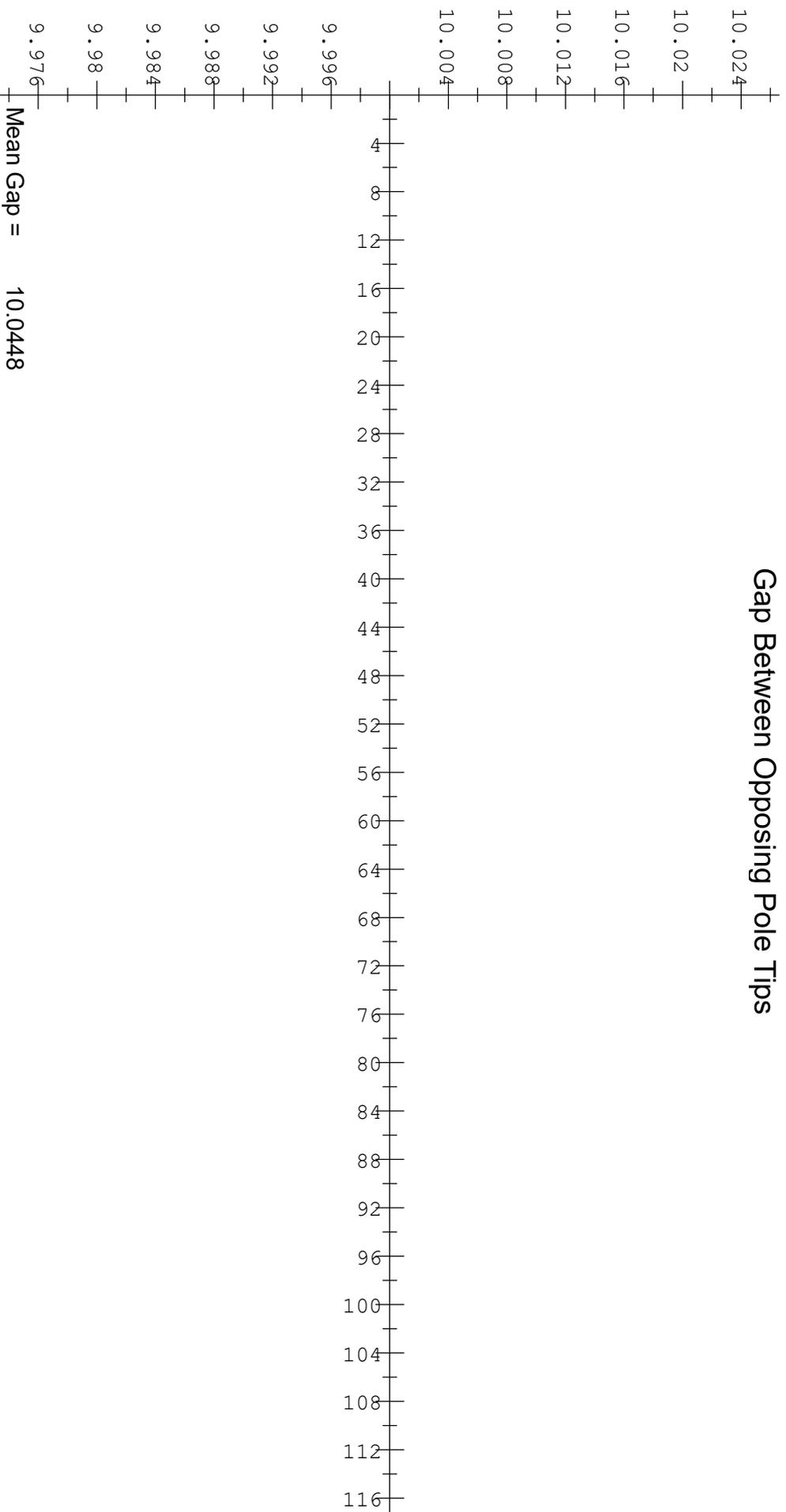METROLOGY

LCLS II-HE - SXR Undulator

Nominal Gap = 10   Nominal Taper = 0.000
Gap Reading = 10.0003   US Encoder = 10.0003   DS Encoder = 10.0004

04-MAR-2025
S/N =   031
D/S=   0001
Run=   3

Regression Line Through Points = ------
Dimensions in mm

Y Value Scales Centered on Mean Values
Step Between Measured Pole Tips =   1

Top Jaw Pole Tips

Y Dev.from Mean

Mean TOP =   5.2755   Regression Line Ang. (mrad) =   0.0024

Bottom Jaw Pole Tips

Minimum Effective Gap =   10.026

Y Dev.from Mean

Pole Tip Num. --->

Y Dev.from Mean

Mean BTM =   -4.7693   Regression Line Ang. (mrad) =   -0.0039

Gap Between Opposing Pole Tips

10.024 10.02 10.016 10.012 10.008 10.004 10.004 10.008 10.012 10.016 10.02 10.024

9.976 9.98 9.984 9.988 9.992 9.996

4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 84 88 92 96 100 104 108 112 116

Dimensions in mm

Step Between Measured Pole Tips = 1

Mean Gap = 10.0448

LCLS II-HE - SXR Undulator

Nominal Gap = 10   **Nominal Taper = 0.000**

Gap Reading = 10.0003   US Encoder = 10.0003   DS Encoder = 10.0004

METROLOGY

04-MAR-2025
S/N = 031
D/S= 0001
Run= 3

Symmetry Point Between Pole Tips

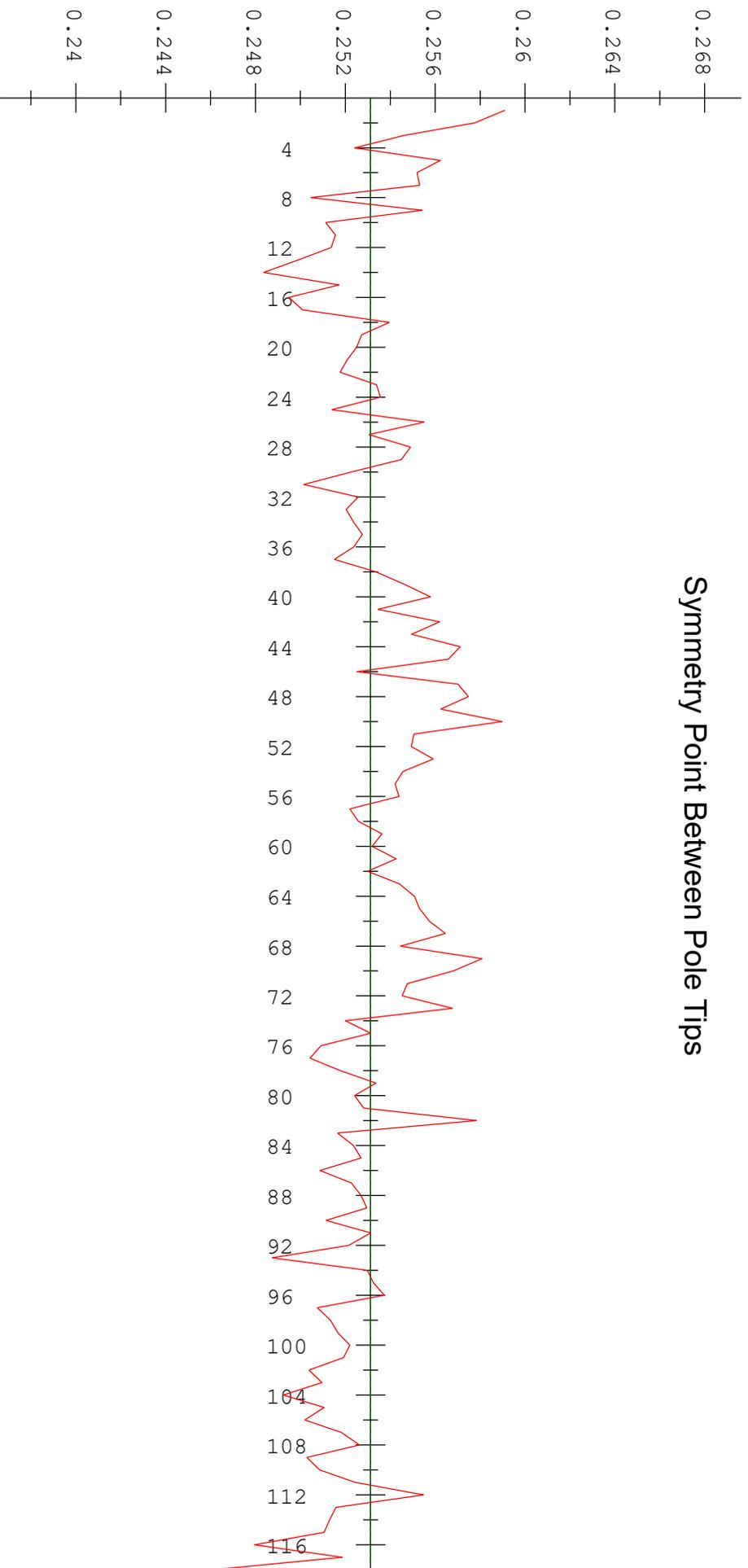**LCLS II-HE - SXR Undulator**

Nominal Gap = 10   Nominal Taper = 0.000

Gap Reading = 10.0003   US Encoder = 10.0003   DS Encoder = 10.0004

METROLOGY

Step Between Measured Pole Tips =   1

Mean Symmetry Value =   0.2531

Dimensions in mm

04-MAR-2025
S/N =   031
D/S =   0001
Run=   3

Top and Bottom Jaw
Regression Line Intersect Points

Jaw	First Pole (Pole 1)	US Actuator (Pole 28)	DS Actuator (Pole 90)	Last Pole (Pole 118)
Top	5.2716	5.2734	5.2776	5.2795
Bottom	-4.7630	-4.7659	-4.7726	-4.7756
Gap	10.0346		10.0551	
Taper				0.0204

Summary of Mean Values

Top Jaw Poles	Btm. Jaw Poles	Gap Values	Sym. Pt. Values
5.2755	-4.7693	10.0448	0.2531

Additional Calculated Values

Bottom Pole #1 Z Value	978.458
Top Jaw Pitch (mrad)	0.002
Bottom Jaw Pitch(mrad)	-0.004
Minimum Effective Gap	10.026
Reference Block Gap	6.801

METROLOGY

LCLS II-HE - SXR Undulator

Nominal Gap = 10
Nominal Taper = 0.000

Gap Reading = 10.0003   US Encoder = 10.0003   DS Encoder = 10.0004

04-MAR-2025
S/N = 031
D/S= 0001
Run= 3

Dimensions in mm