

LCLS II 2Q4W Fiducialization Report



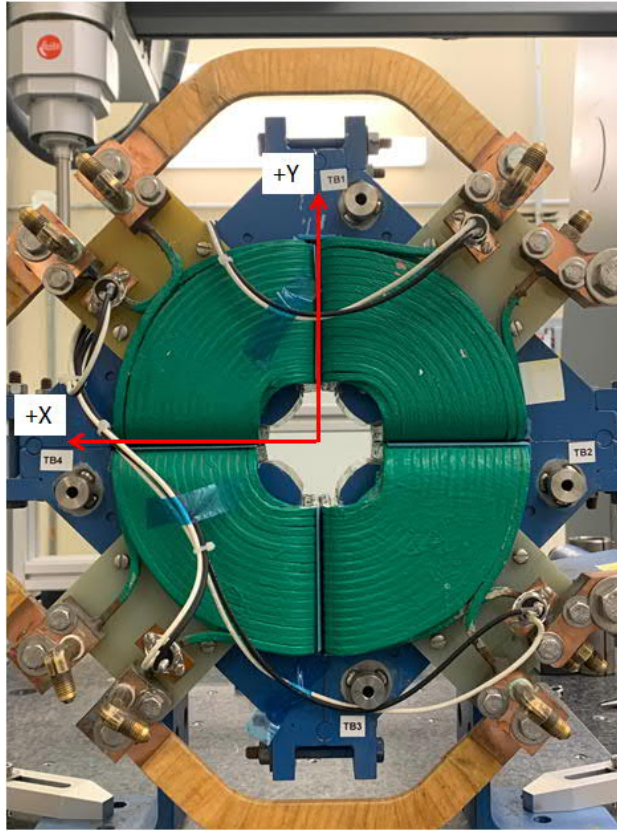
Inspector : K. Caban
Engineer : J. Amann
Drawing No. : SA-344-112-08
Barcode # : 4235
Mfg. S/N : #17

Coordinate System Setup

Spatial Alignment

The Spatial Alignment of the magnet is created through a composite best-fit of the pole tips. Each pole tip scanned 0.150 inch inboard from the upstream magnet face and the downstream magnet face. A composite best-fit of the upstream poles and the downstream poles is made with the nominal pole tip shape and location. An axis is created through the two best-fit centerpoints. This axis is the spatial alignment of the magnet and defines the Z axis.

Tooling Ball Locations



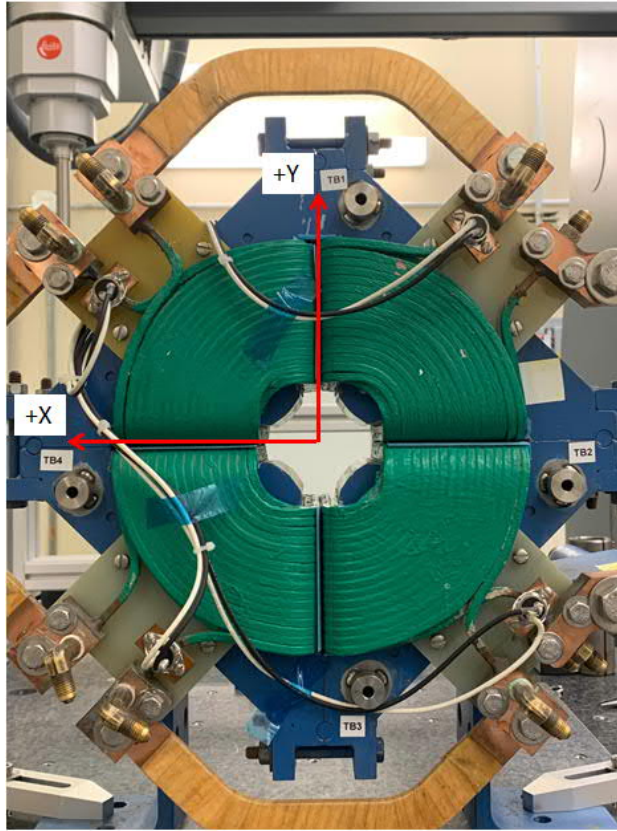
Tooling Ball	X Coord.	Y Coord.	Z Coord.
TB 1	-0.9808	5.4914	-3.4419
TB 2	-5.4879	-0.9959	-3.4428
TB 3	-1.0101	-5.4913	-3.4411
TB 4	5.5272	-1.0154	-3.4378

Tooling Ball Locations are 1 inch above Tooling Ball Adapter Plane
Dimensions in Inch

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Tooling Ball Locations



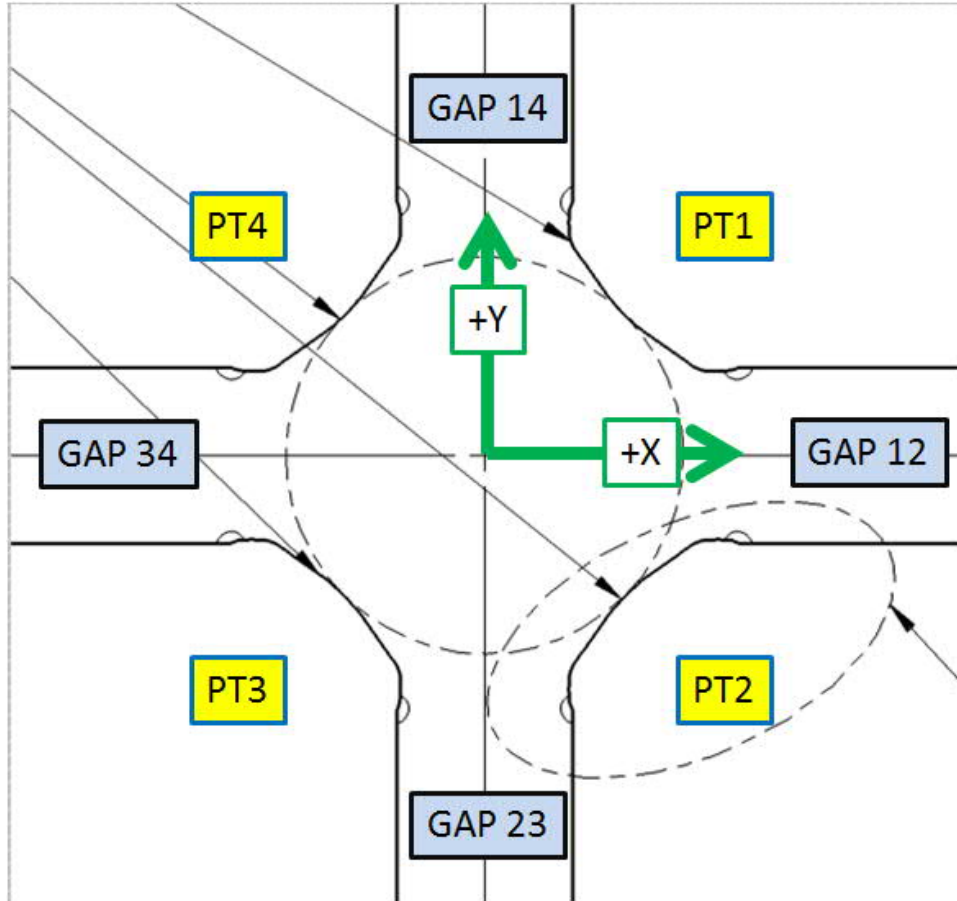
Tooling Ball	X Coord.	Y Coord.	Z Coord.
TB 1	-0.9818	5.4908	-2.7543
TB 2	-5.4855	-0.9941	-2.7543
TB 3	-1.0092	-5.4874	-2.7532
TB 4	5.5234	-1.0150	-2.7497

Tooling Ball Locations are 5/16 inch above Tooling Ball Adapter Plane
Dimensions in Inch

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Pole Tip Gap Measurements



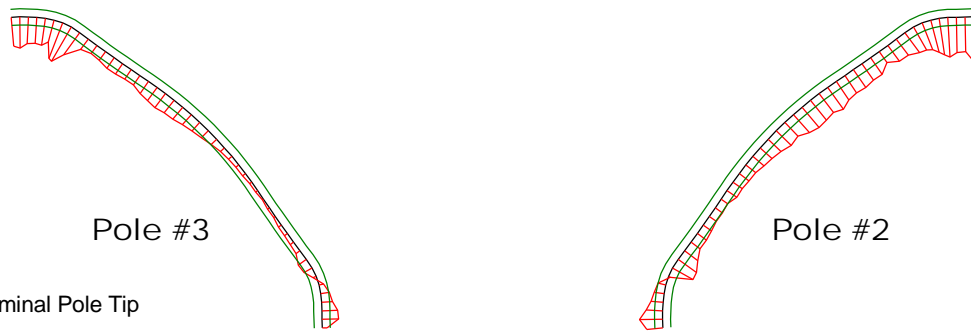
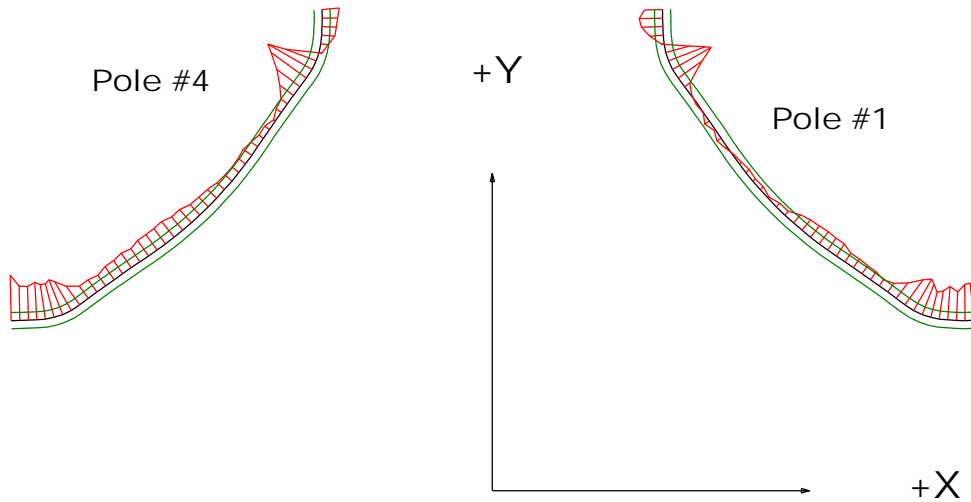
	Nominal Distance	Downstream Pole End	Upstream Pole End
PT Distance 1-3	2.026	2.0278	2.0274
PT Distance 2-4	2.026	2.0302	2.0282
Gap 1-2	0.8602	0.8669	0.8654
Gap 2-3	0.8602	0.8531	0.8532
Gap 3-4	0.8602	0.8665	0.8703
Gap 1-4	0.8602	0.8537	0.8535

Dimensions in Inch

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Composite Best-fit of Pole Tips, Downstream



Black = Nominal Pole Tip
 Red = Pole Tip Deviations
 Green = +/- .001 Tolerance

Dimensions in Inch

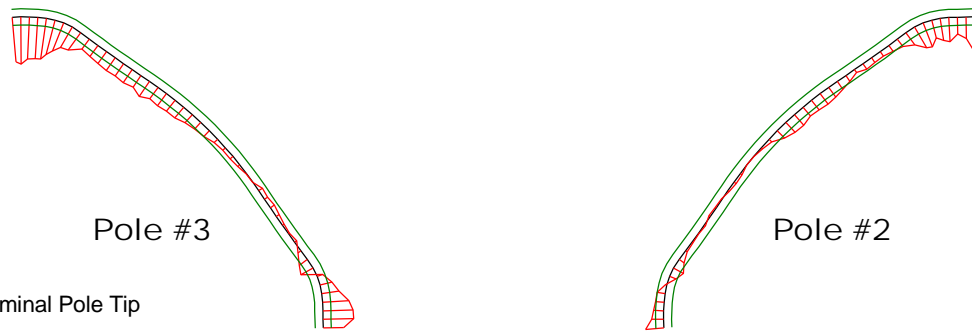
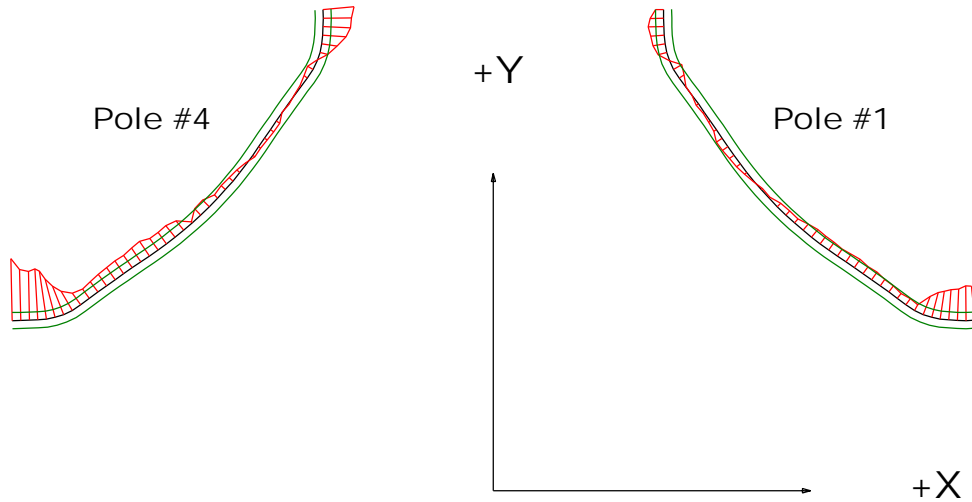
Pole Tip Deviations

Pole Tip	#1	#2	#3	#4
Min. Dev.	-0.0055	-0.0057	-0.0049	-0.0063
Max. Dev.	0.0029	0.0029	0.0021	0.0022

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Composite Best-fit of Pole Tips, Upstream



Black = Nominal Pole Tip
 Red = Pole Tip Deviations
 Green = +/- .001 Tolerance

Dimensions in Inch

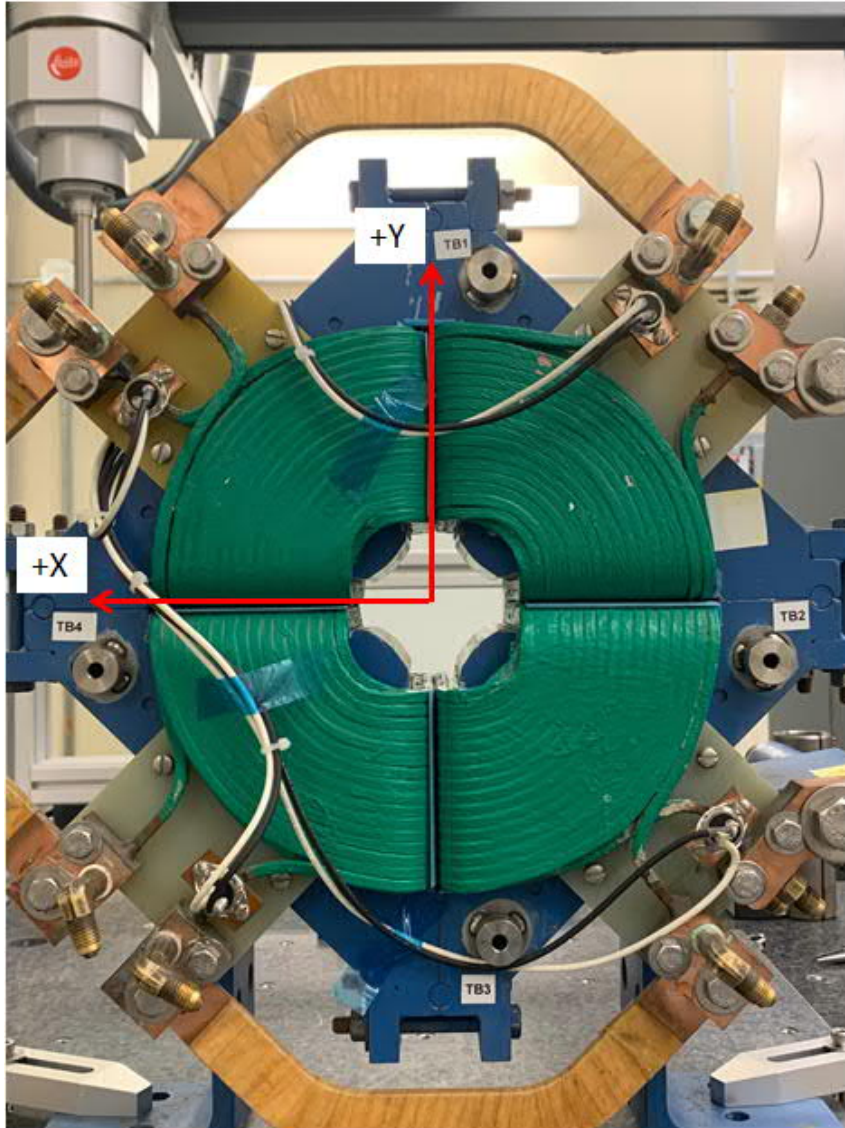
Pole Tip Deviations

Pole Tip	#1	#2	#3	#4
Min. Dev.	-0.0043	-0.0045	-0.0059	-0.0077
Max. Dev.	0.002	0.0023	0.0038	0.0039

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Angle of the Composite Pole Tip Best-Fit



in Decimal Degrees ° :