

LCLS II 2Q4W Fiducialization Report



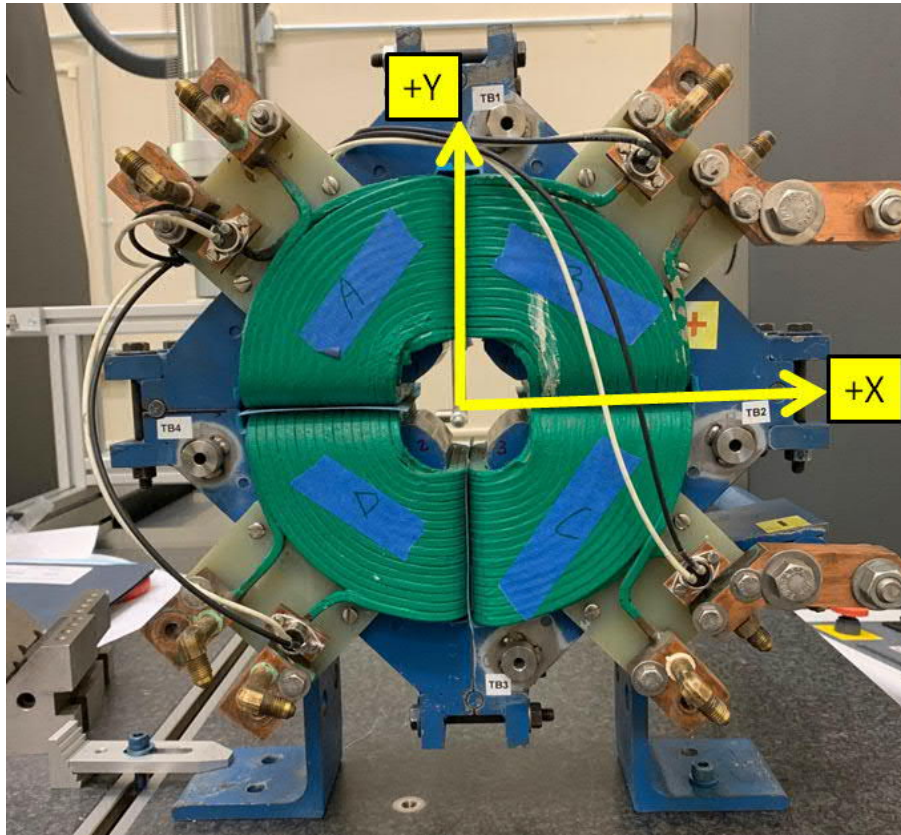
Inspector : K. Caban
Engineer : J. Amann
Drawing No. : SA-344-112-08
Barcode # : 4232
Mfg. S/N : #22

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



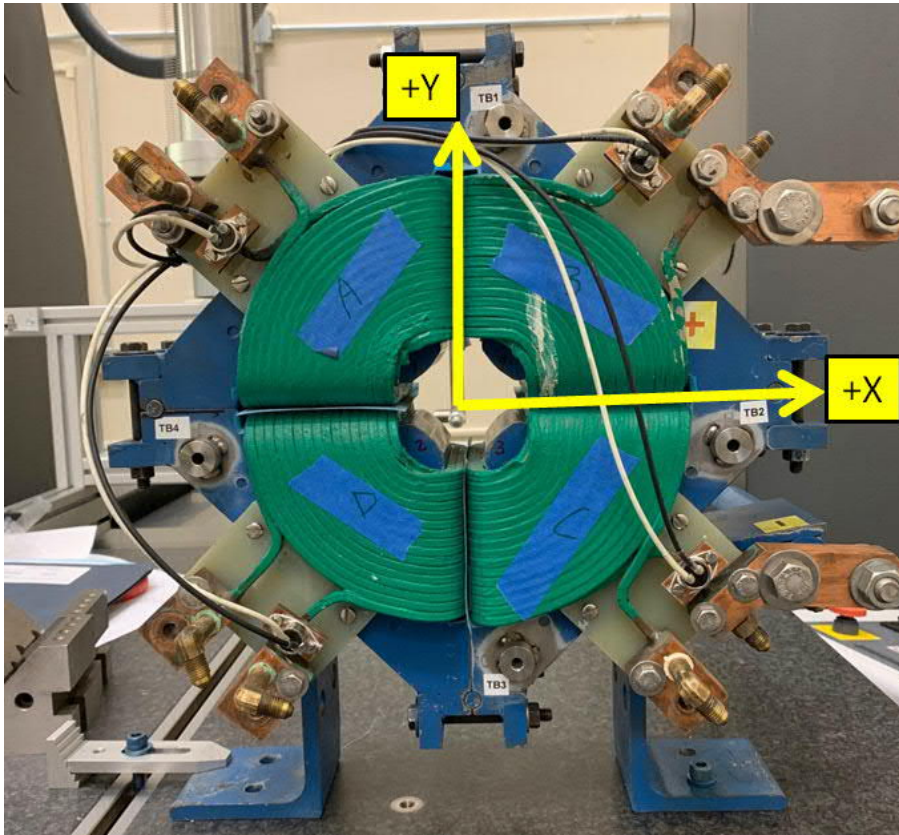
Tooling Ball	X Coord.	Y Coord.	Z Coord.
TB 1	0.9938	5.5057	3.4415
TB 2	5.4909	-1.0057	3.4494
TB 3	0.9947	-5.5117	3.4385
TB 4	-5.5023	-1.0032	3.4396

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

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Tooling Ball Locations



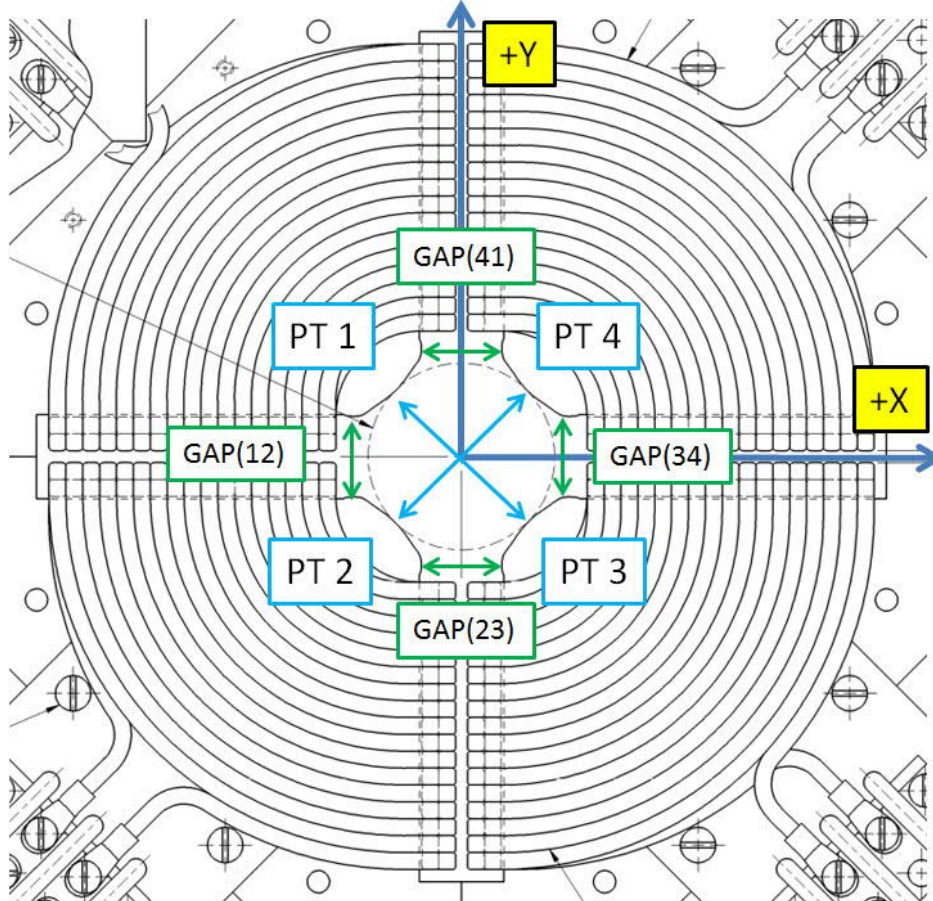
Tooling Ball	X Coord.	Y Coord.	Z Coord.
TB 1	0.9954	5.5052	2.7536
TB 2	5.4912	-1.0018	2.7620
TB 3	0.9957	-5.5084	2.7509
TB 4	-5.5000	-1.0008	2.7515

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

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Pole Tip Gap Measurements



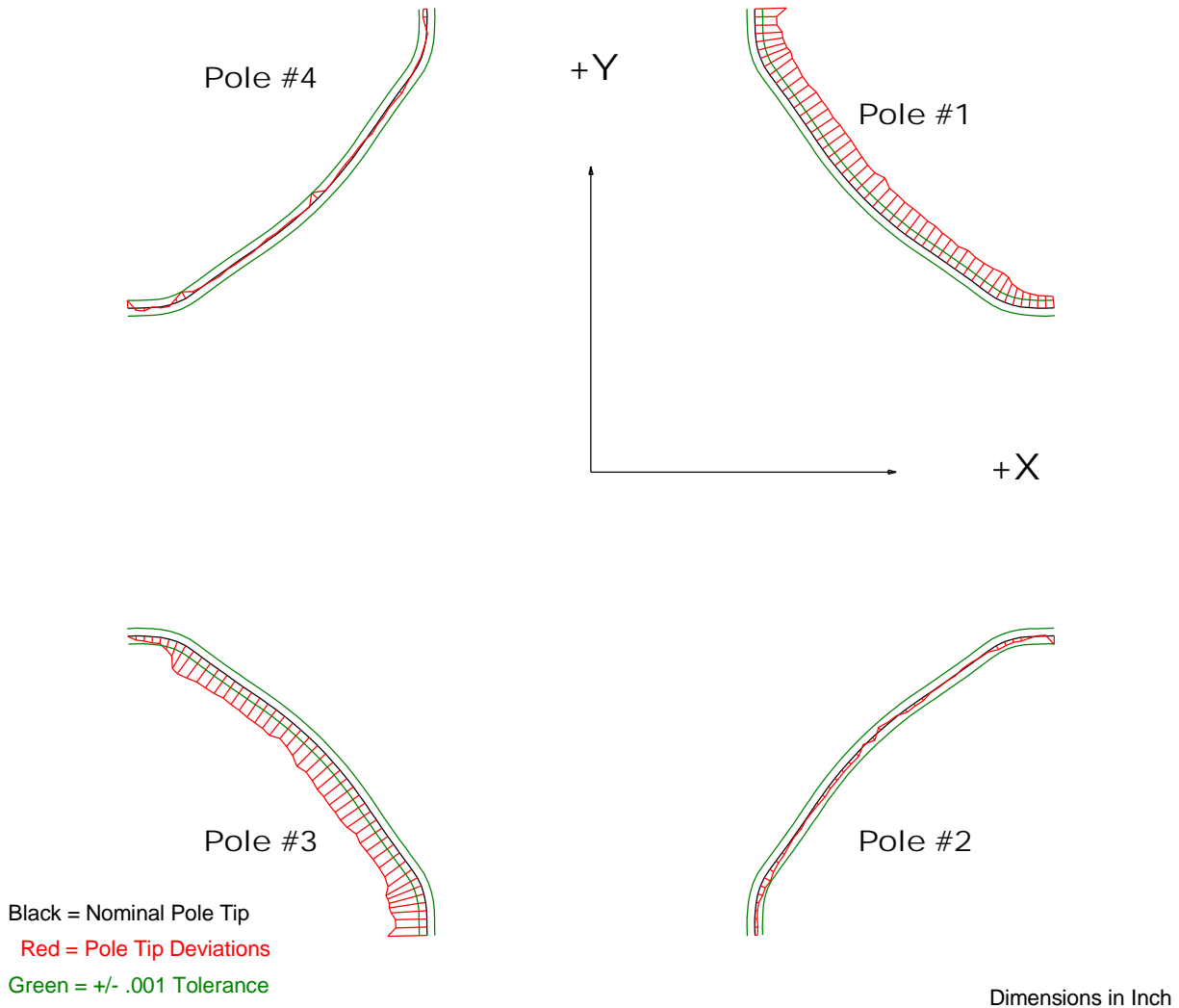
	Nominal Distance	Downstream Pole End	Upstream Pole End
PT Distance 1-3	2.026	2.0335	2.0308
PT Distance 2-4	2.026	2.0257	2.0253
Gap 1-2	0.8602	0.8612	0.8618
Gap 2-3	0.8602	0.8629	0.8532
Gap 3-4	0.8602	0.8589	0.865
Gap 1-4	0.8602	0.8618	0.8565

Dimensions in Inch

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Composite Best-fit of Pole Tips, Downstream



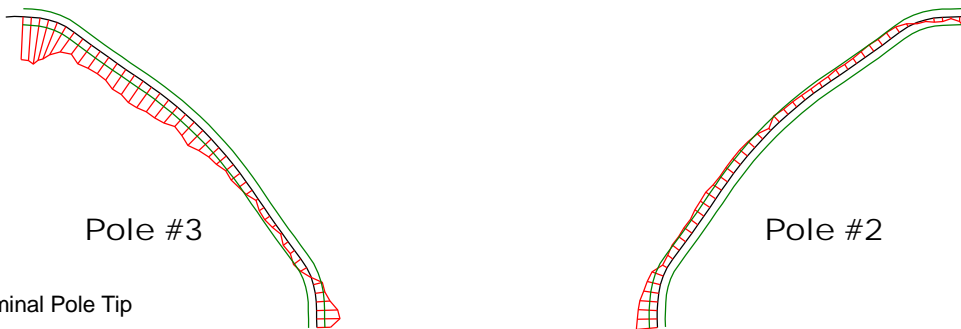
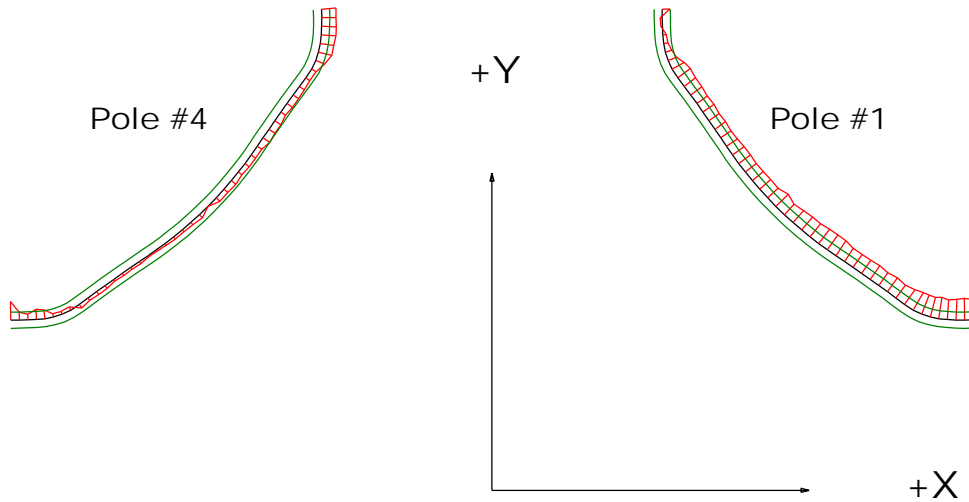
Pole Tip Deviations

Pole Tip	#1	#2	#3	#4
Min. Dev.	-0.0041	-0.0011	-0.0051	-0.0011
Max. Dev.	-0.0015	0.0004	0	0.0004

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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

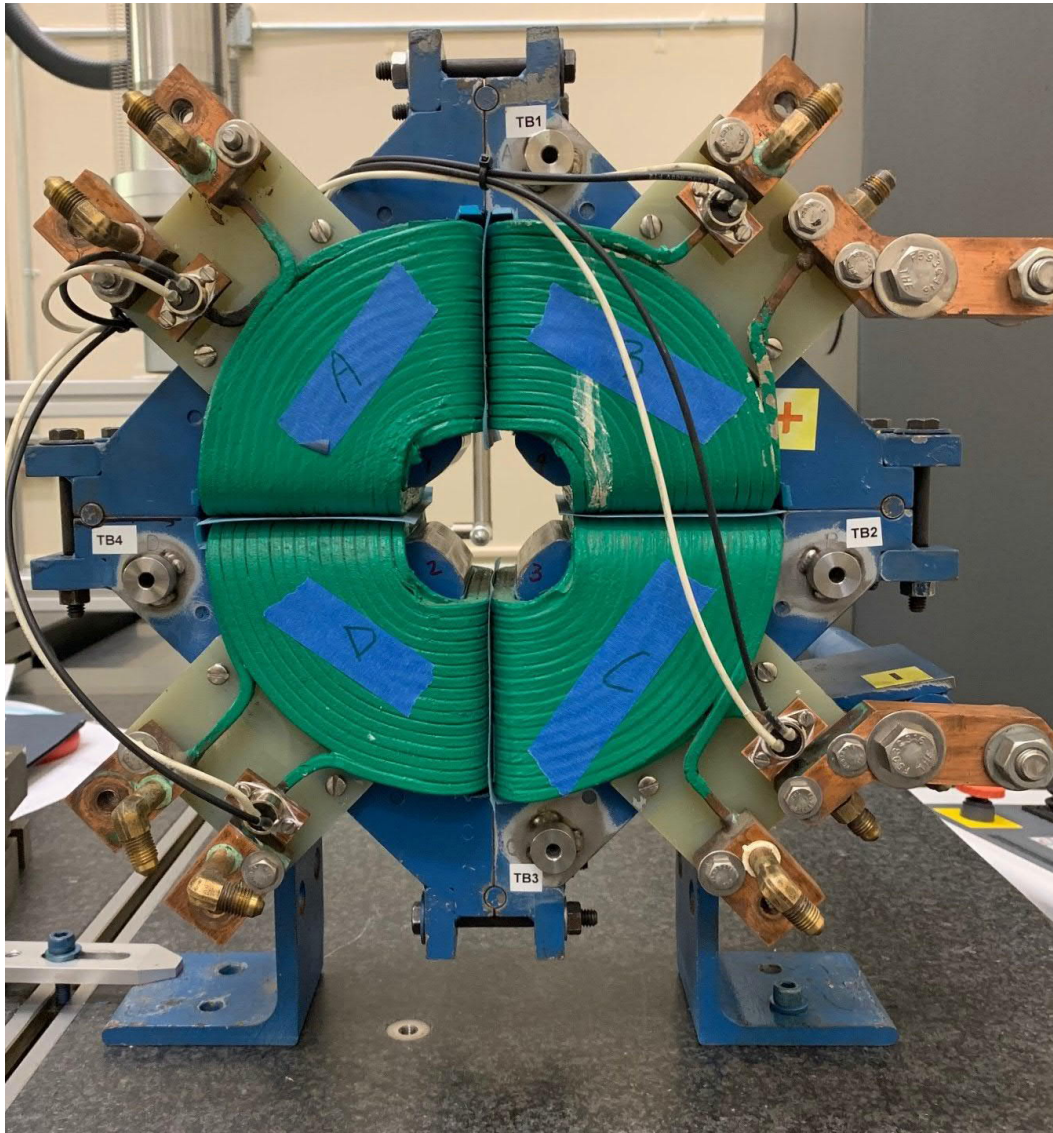
Pole Tip Deviations

Pole Tip	#1	#2	#3	#4
Min. Dev.	-0.0027	-0.0021	-0.0058	-0.0023
Max. Dev.	0.0003	0.0026	0.0029	0.0019

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Angle of the Composite Pole Tip Best-Fit



in Decimal Degrees ° :