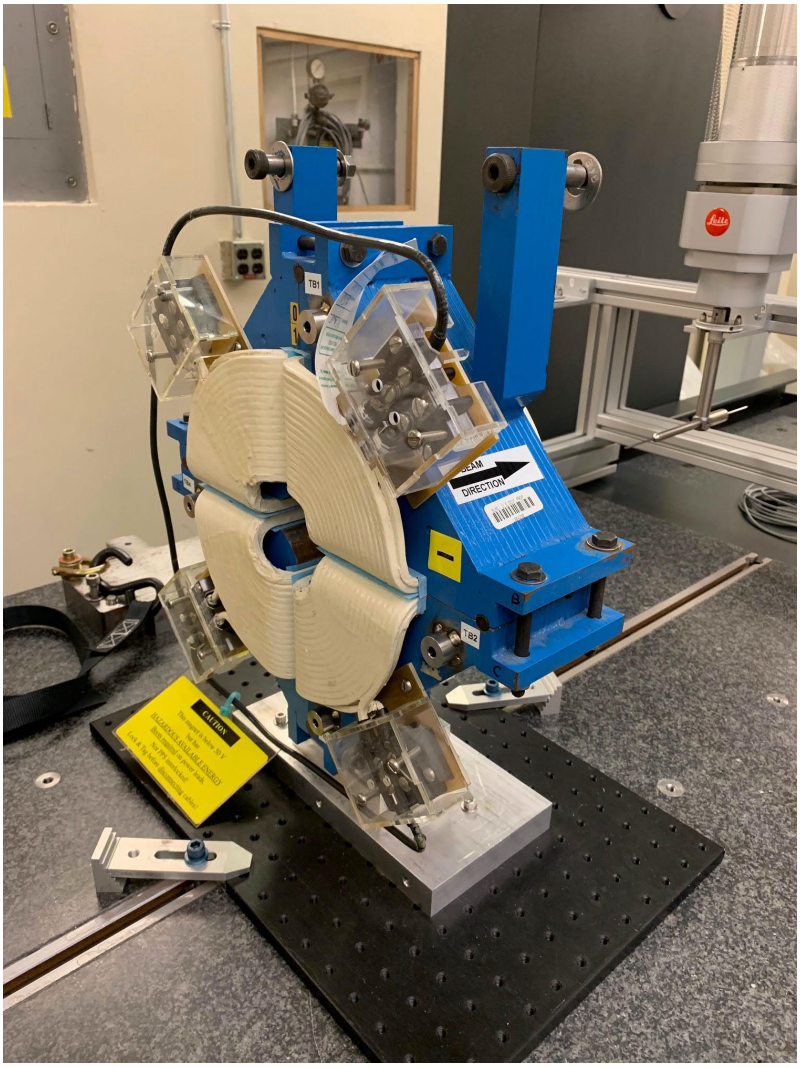
LCLS II 2Q4 Fiducialization Report



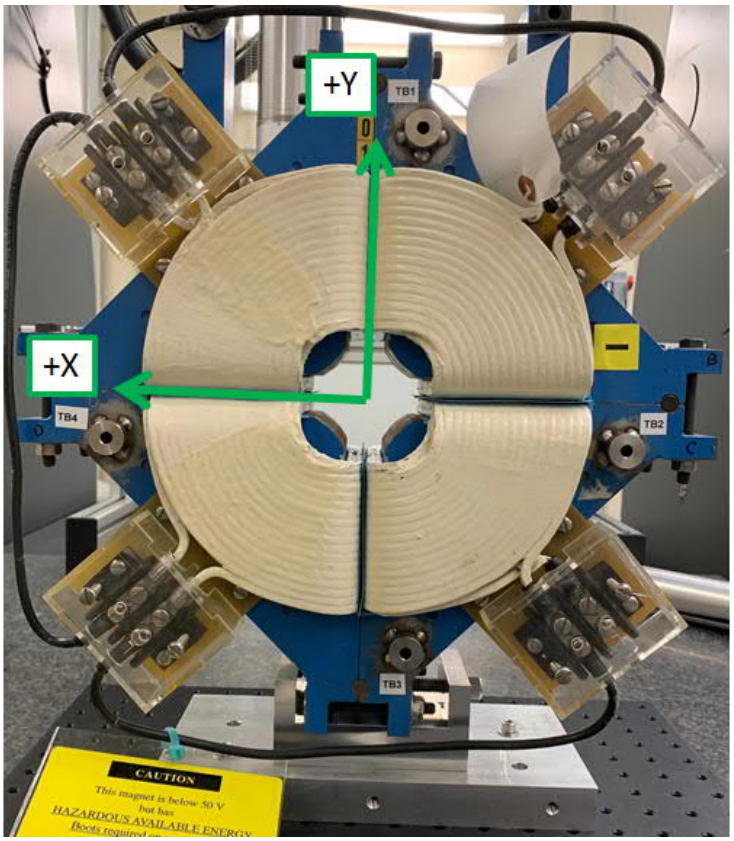
Inspector : K. Caban
Engineer : J. Amann
Drawing No. : SA-344-112-01
Barcode # : 4230
Mfg. S/N : #01

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	-0.9930	5.4793	-3.4394
TB 2	-5.4888	-0.9907	-3.4359
TB 3	-1.0101	-5.5169	-3.4389
TB 4	5.4912	-1.0160	-3.4353

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

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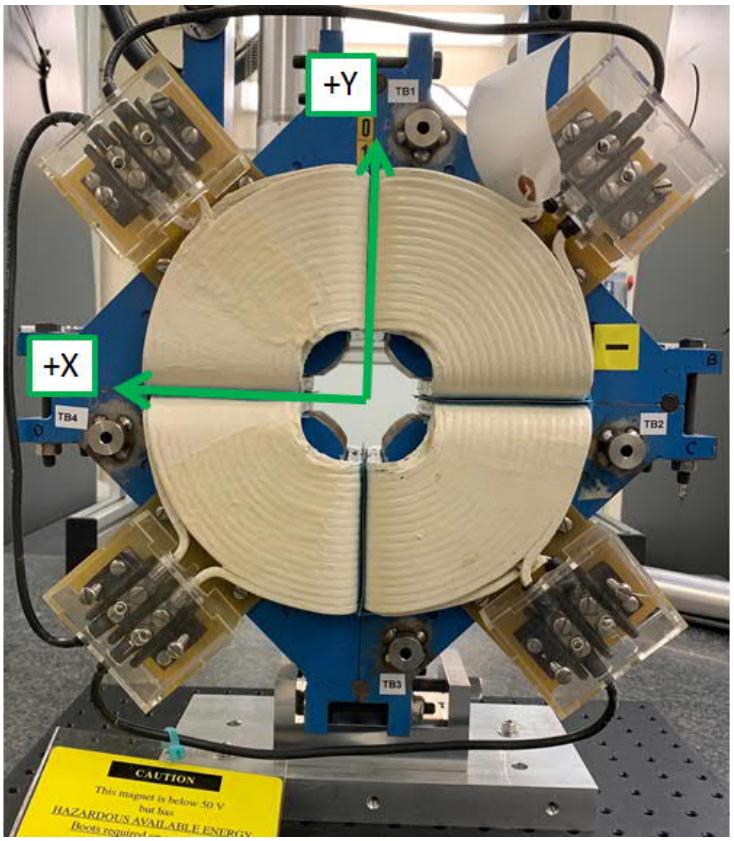
Tooling Ball Locations



Tooling Ball	X Coord.	Y Coord.	Z Coord.
TB 1	-0.9929	5.4817	-2.7514
TB 2	-5.4893	-0.9894	-2.7474
TB 3	-1.0101	-5.5124	-2.7506
TB 4	5.4891	-1.0133	-2.7474

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

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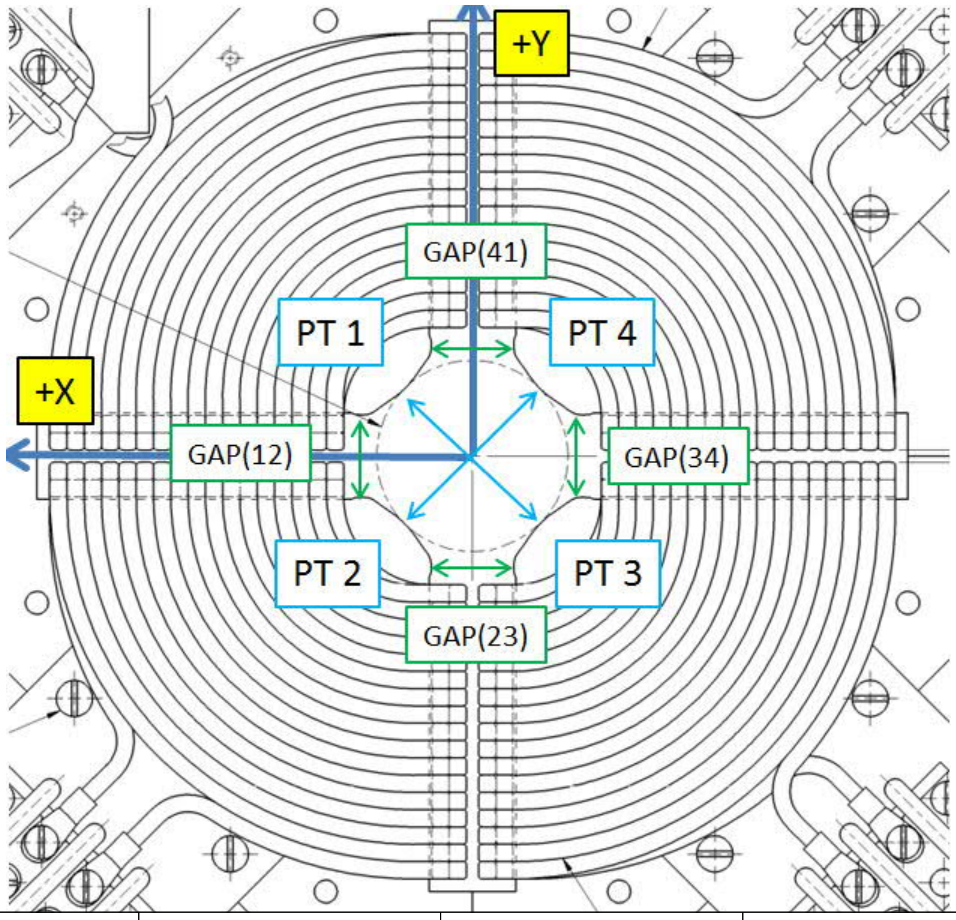
Pole Tip Gap Measurements



	Nominal Distance	Downstream Pole End	Upstream Pole End
PT Distance 1-3	2.086	2.0857	2.0863
PT Distance 2-4	2.086	2.0851	2.0878
Gap 1-2	0.900	0.9013	0.9022
Gap 2-3	0.900	0.8996	0.8955
Gap 3-4	0.900	0.9013	0.9018
Gap 1-4	0.900	0.903	0.9009

Dimensions in Inch

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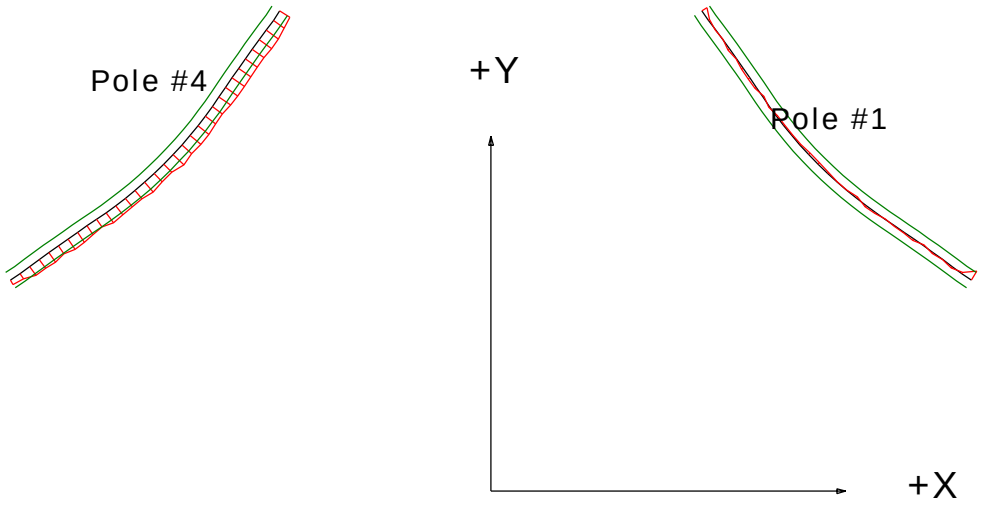
Composite Best-fit of Pole Tips, Downstream



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.	-0.0011	-0.0017	0.0009	0.0006
Max. Dev.	0.0002	0.001	0.0019	0.0017

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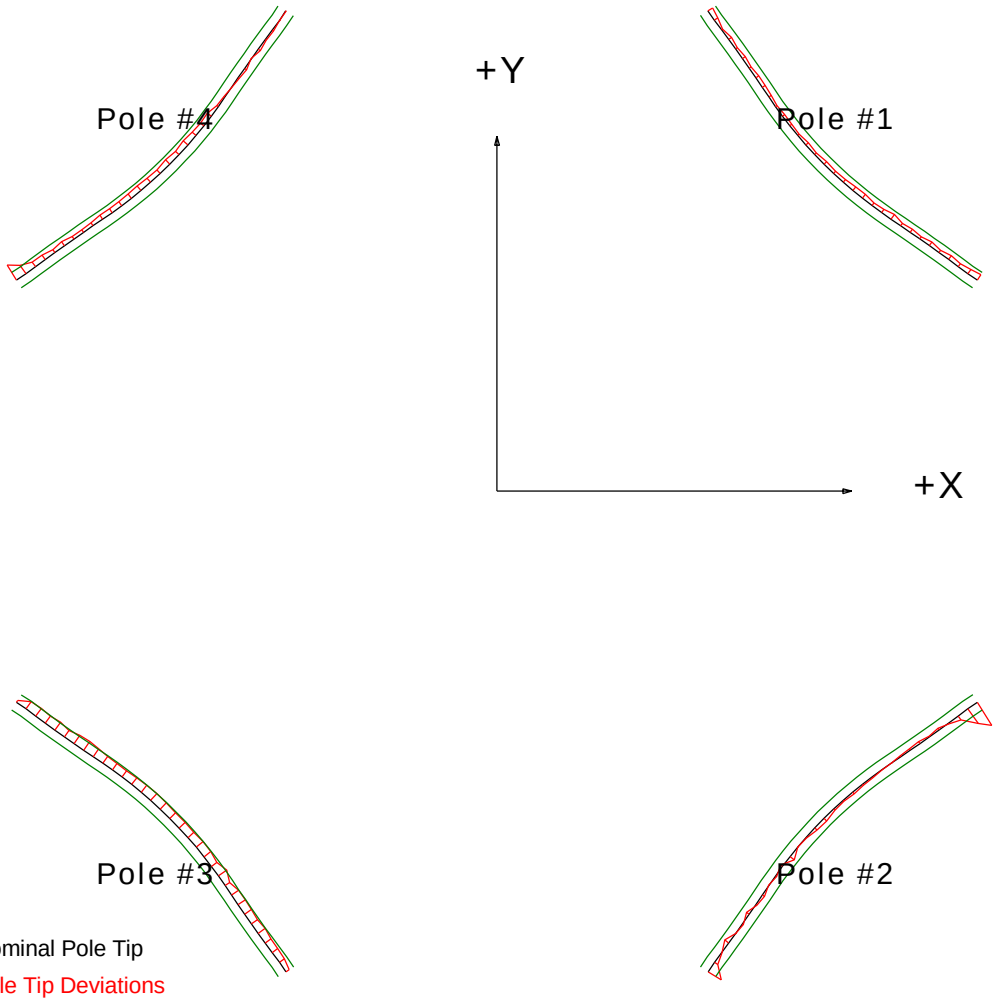
Composite Best-fit of Pole Tips, Upstream



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

Dimensions in Inch

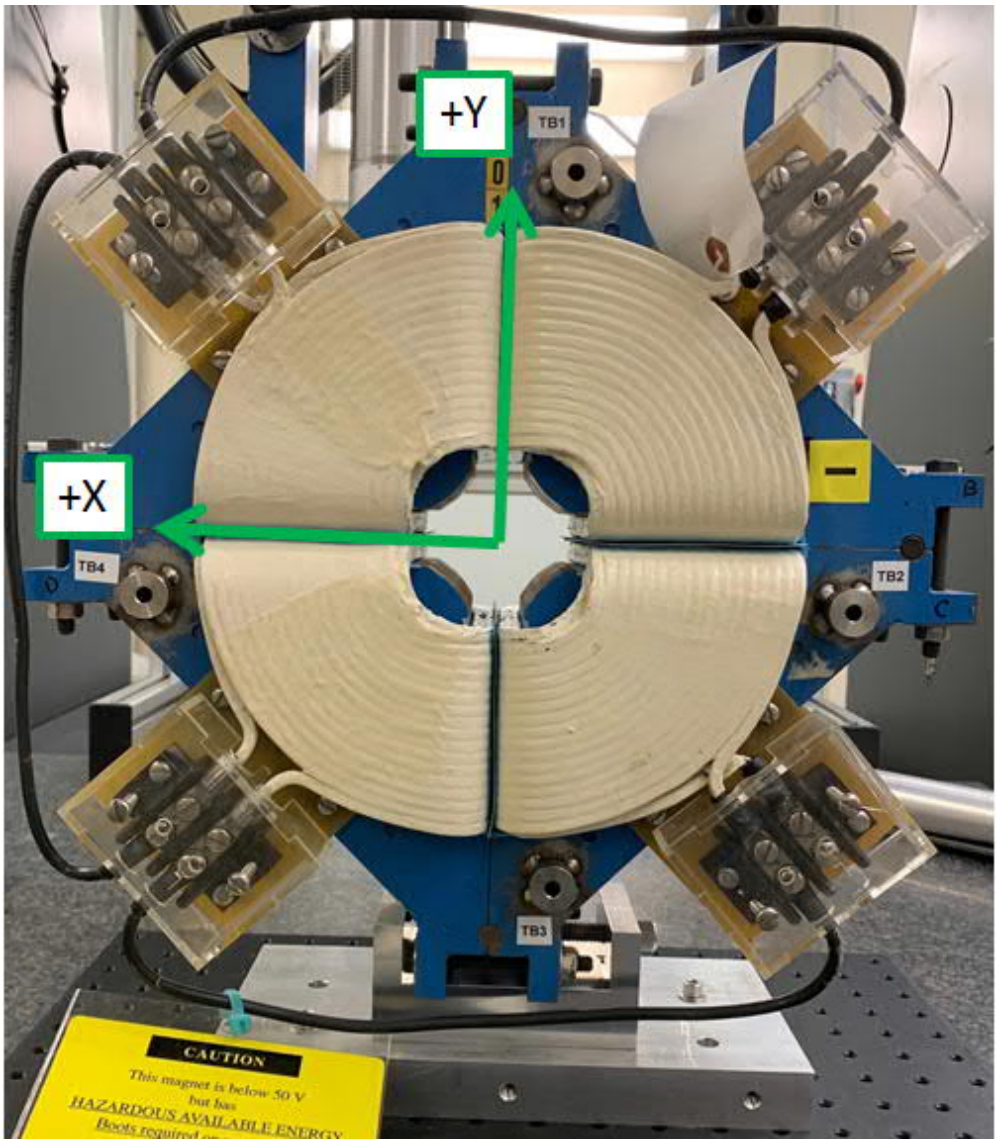
Pole Tip Deviations

Pole Tip	#1	#2	#3	#4
Min. Dev.	-0.0007	-0.003	0.0003	-0.002
Max. Dev.	-0.0002	0.0006	0.0012	0.0003

Barcode # : 4230

Mfg. S/N : #01

Angle of the Composite Pole Tip Best-Fit



in Decimal Degrees ° :