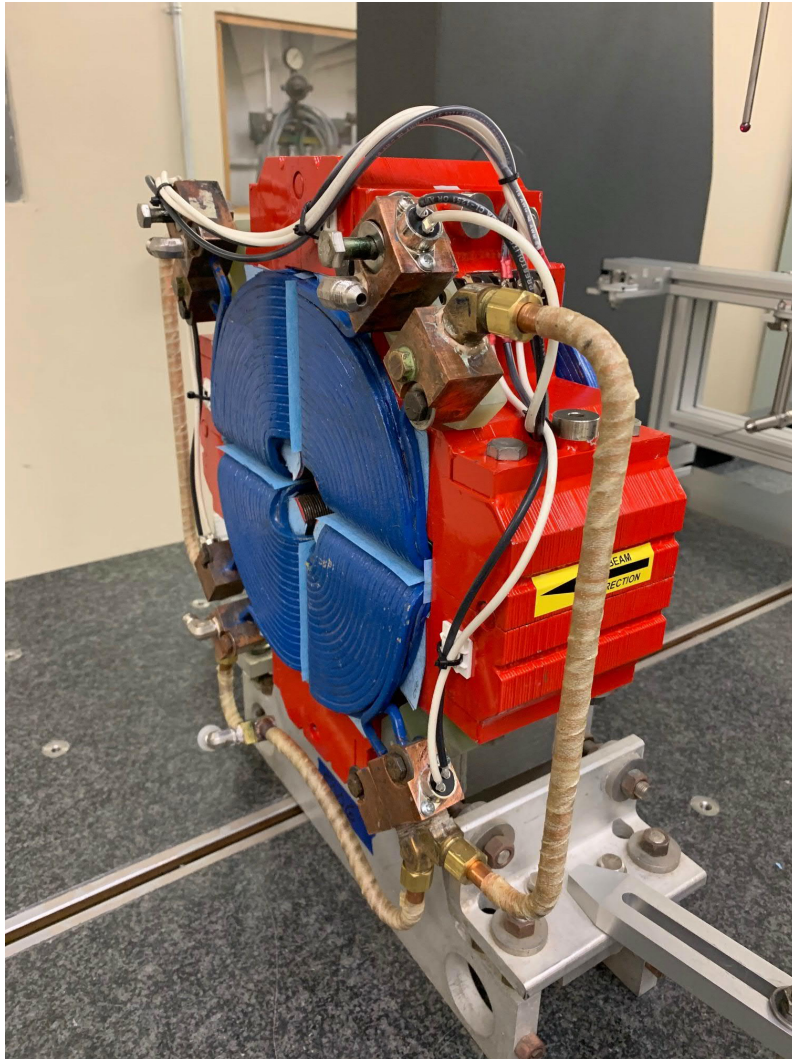


LCLS II 1.085Q4.31 Fiducialization Report



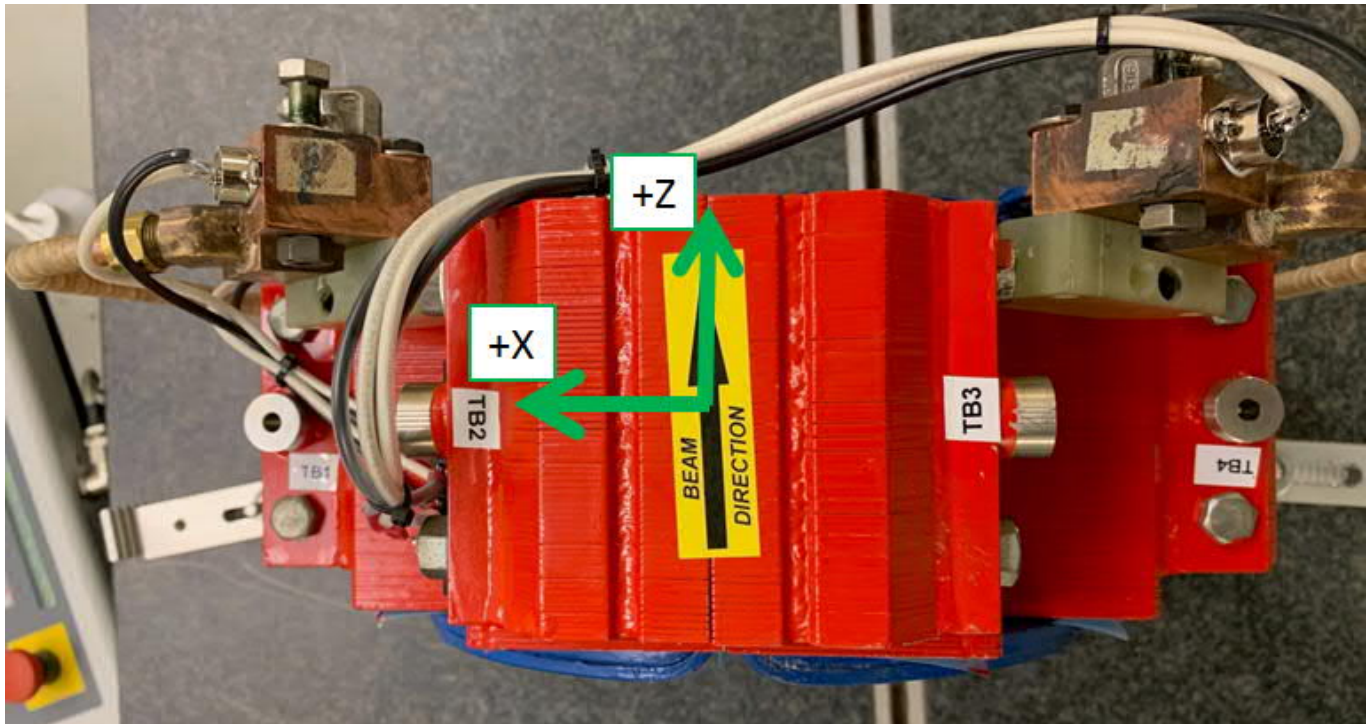
Inspector : K. Caban
Engineer : A. Ibrahimov
Drawing No. : SA-902-675-01
Barcode # : 4250
Mfg. S/N : E007

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 0.100 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



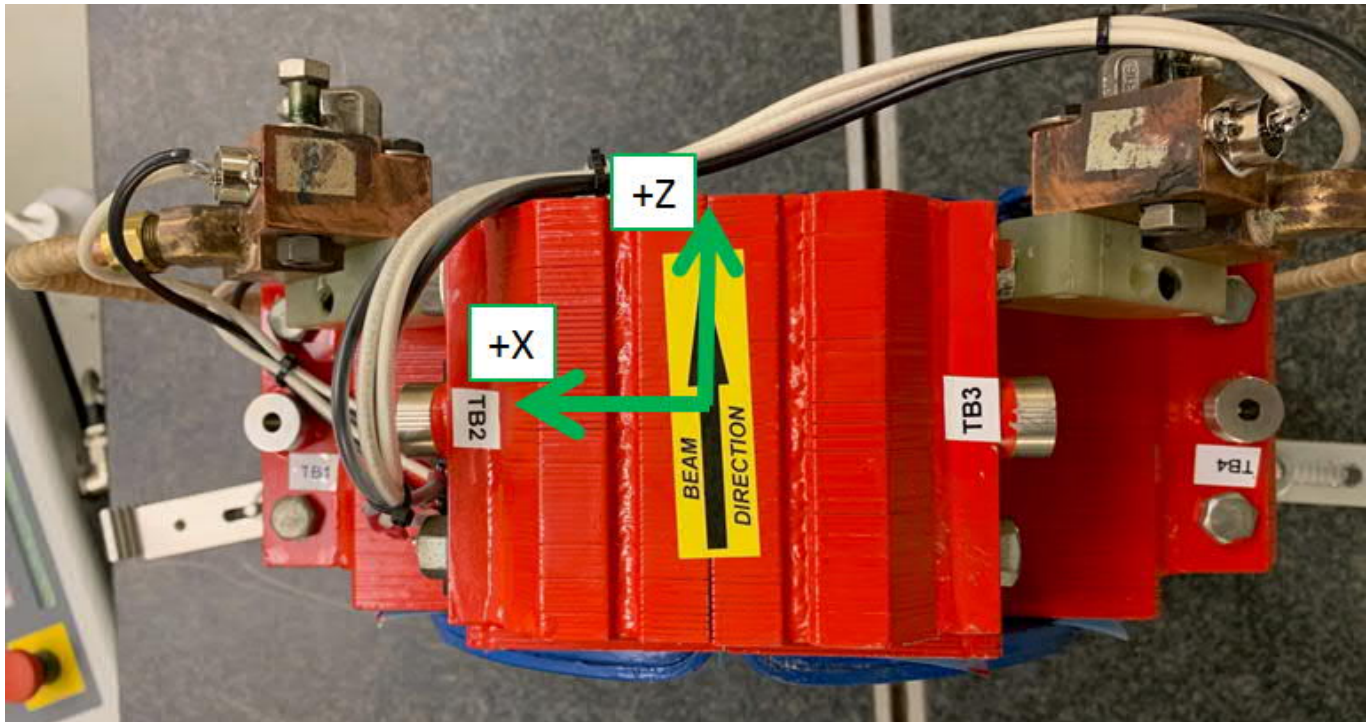
Tooling Ball	X Coord.	Y Coord.	Z Coord.
TB 1	5.8514	4.0086	0.2282
TB 2	3.9957	5.8649	0.2764
TB 3	-4.0075	5.8331	0.2218
TB 4	-5.8531	3.9924	0.2327

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

Barcode # : 4250

Mfg. S/N : E007

Tooling Ball Locations



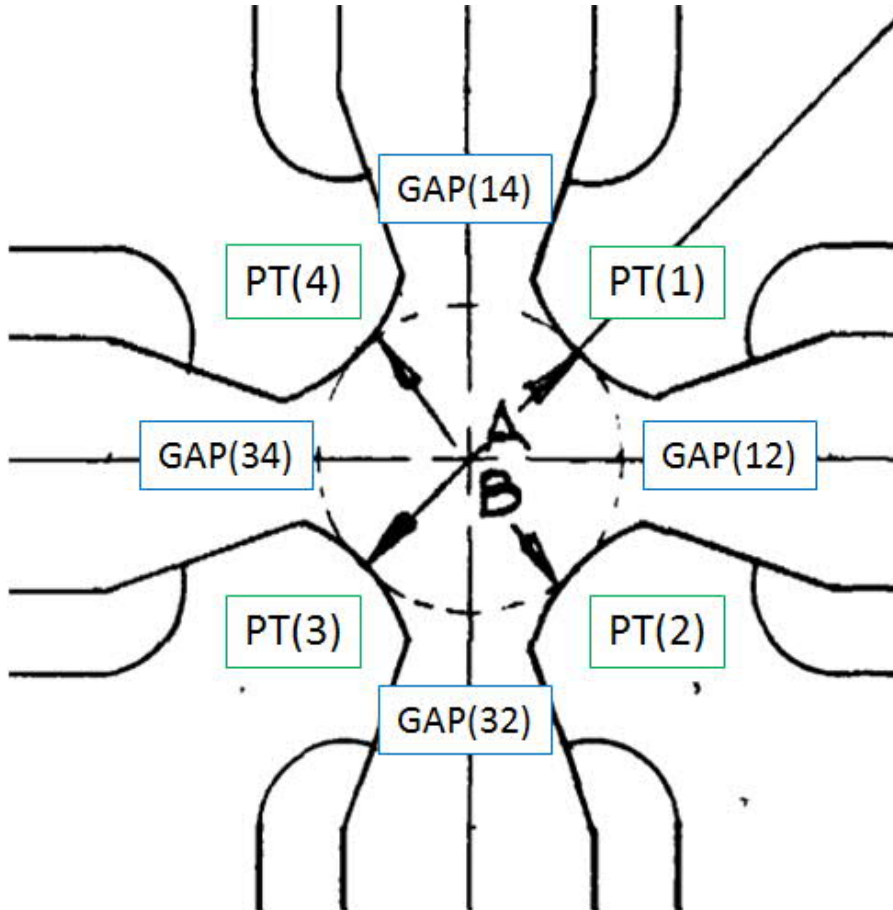
Tooling Ball	X Coord.	Y Coord.	Z Coord.
TB 1	5.8477	3.3213	0.2330
TB 2	3.3076	5.8582	0.2709
TB 3	-3.3196	5.8372	0.2214
TB 4	-5.8505	3.3048	0.2329

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

Barcode # : 4250

Mfg. S/N : E007

Pole Tip Gap Measurements



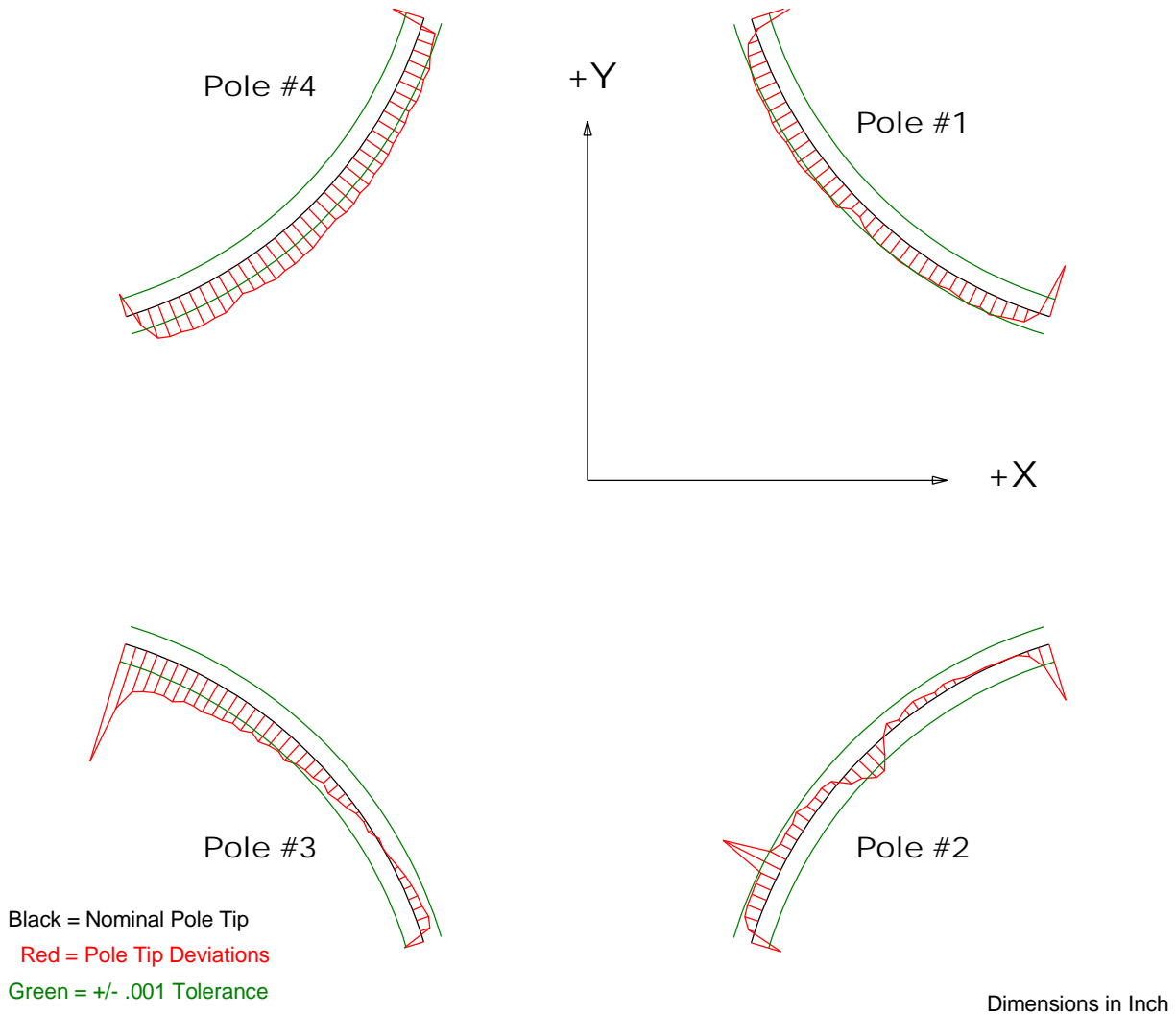
	Nominal Distance	Downstream Pole End	Upstream Pole End
PT Distance 1-3(A)	1.085	1.08521	1.08999
PT Distance 2-4(B)	1.085	1.08487	1.08679
Gap 1-2	0.4546	0.46142	0.46141
Gap 2-3	0.4546	0.45762	0.4643
Gap 3-4	0.4546	0.43888	0.46366
Gap 4-1	0.4546	0.45956	0.46376

Dimensions in Inch

Barcode # : 4250

Mfg. S/N : E007

Composite Best-fit of Pole Tips, Downstream



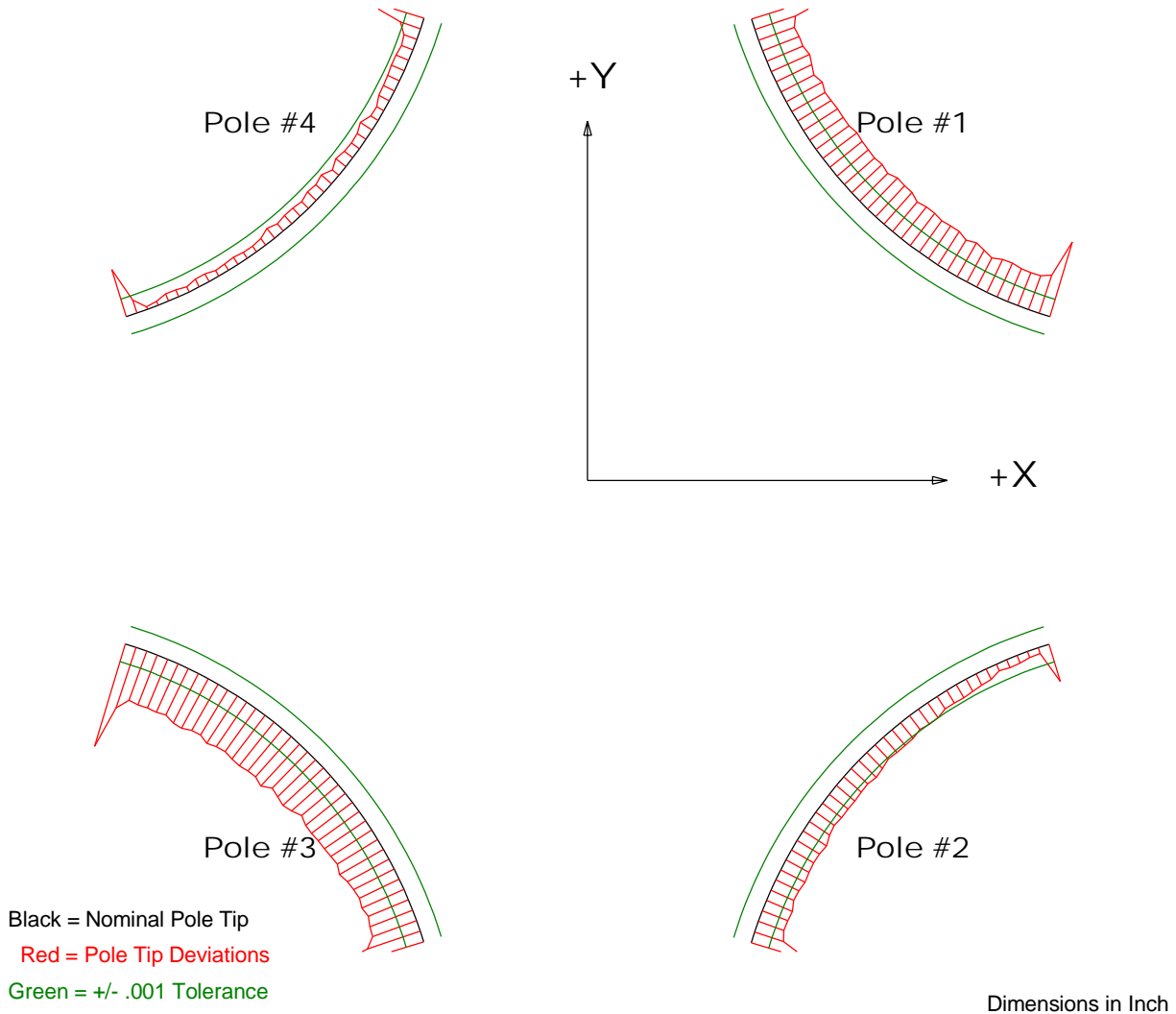
Pole Tip Deviations

Pole Tip	#1	#2	#3	#4
Min. Dev.	-0.00293	-0.0032	-0.00672	-0.00189
Max. Dev.	0.00126	0.00354	0.00069	0.00197

Barcode # : 4250

Mfg. S/N : E007

Composite Best-fit of Pole Tips, Upstream



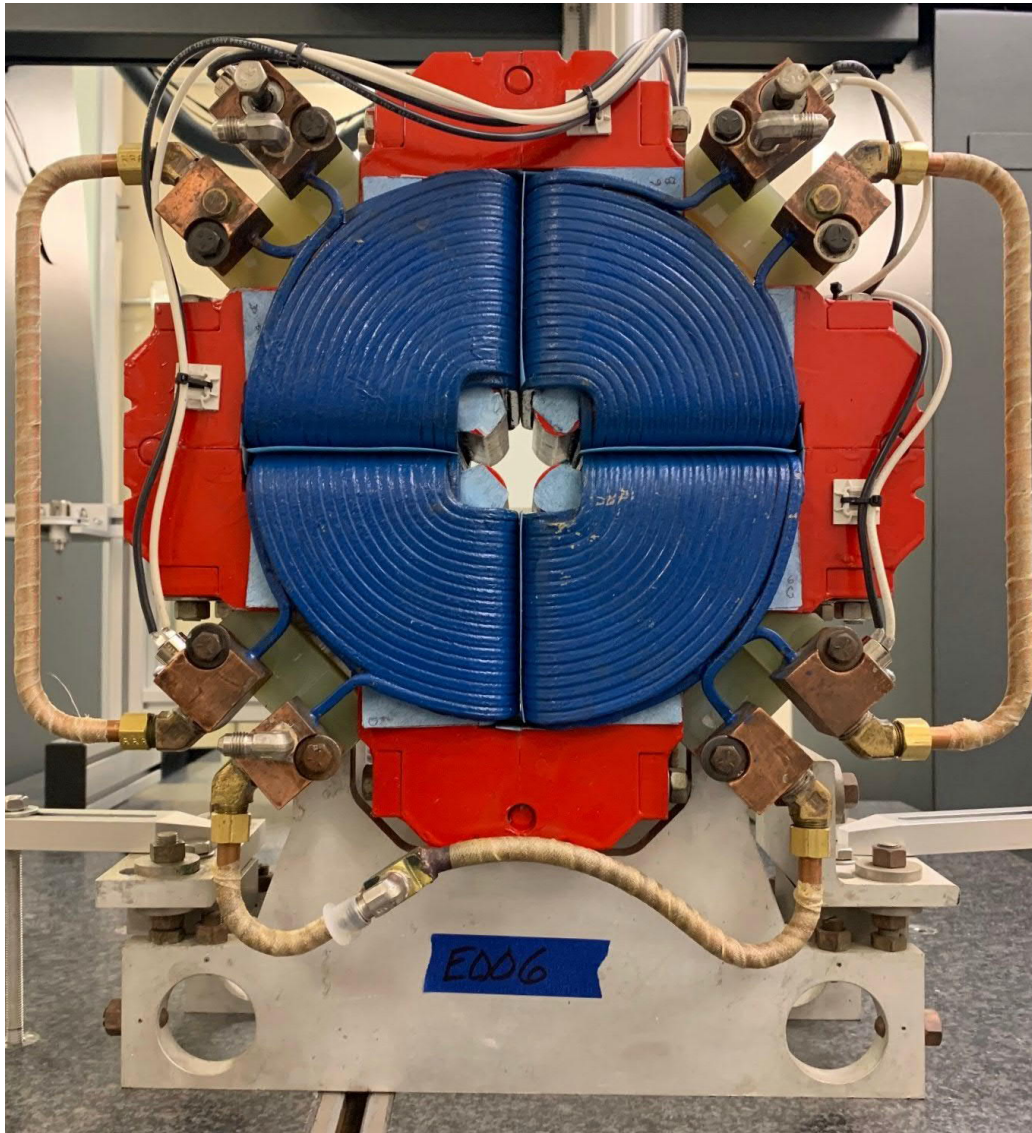
Pole Tip Deviations

Pole Tip	#1	#2	#3	#4
Min. Dev.	-0.00507	-0.00326	-0.00586	-0.00354
Max. Dev.	-0.0018	-0.00033	-0.00238	-0.00016

Barcode # : 4250

Mfg. S/N : E007

Angle of the Composite Pole Tip Best-Fit



Angle in Decimal Degrees ° :-0.06837

Angle in Milliradians :-1.19329

Barcode # : 4250

Mfg. S/N : E007