



Field quality of HCQCXF_S006-CR000001 (Corrector package with LMCXF01)

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MAB meeting 03/02/2025

Performed tests

Bare magnets

- At 4.5 K vertical (LASA)
 - Field quality with Rotating Coils of HO Correctors
- At 1.9 K vertical (SM18)
 - Field quality with Rotating Coils of MCBXFA

Cold mass

- At ambient temperature in bld.180
 - Magnetic centers and angles with Stretched wire

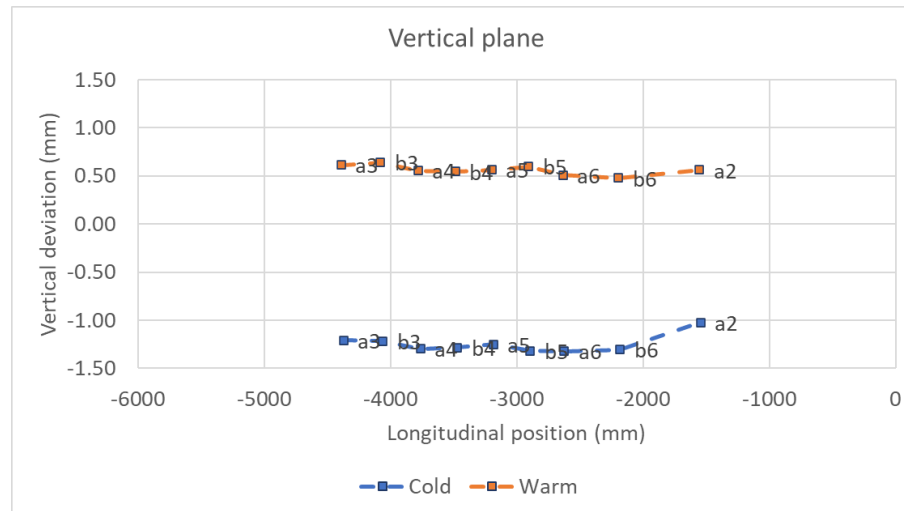
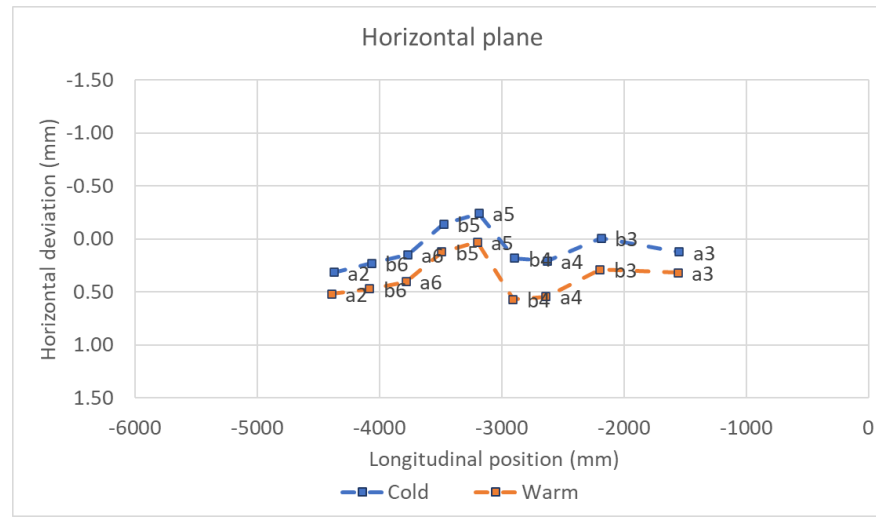
Final assembly

- At 1.9 K horizontal (SM18)
 - Main field, magnetic centers and angles with Stretched wire

Main field (stretched wire)

Main Field (integral field at 50 mm)			
	Current (A)	Main Field (Tm)	Field direction (mrad)
MCBFAV	1593	4.5130	-0.50
MCBFAH	1340	4.5297	0.18
MQSXF	174	0.7210	-0.31
MCTXF	85	0.0883	0.15
MCTSXF	84	0.0173	-0.08
MCDXF	92	0.0396	0.48
MCDSXF	92	0.0396	0.51
MCOXF	102	0.0715	0.70
MCOSXF	102	0.0715	0.43
MCSXF	99	0.0952	0.65
MCSSXF	99	0.0953	-0.01

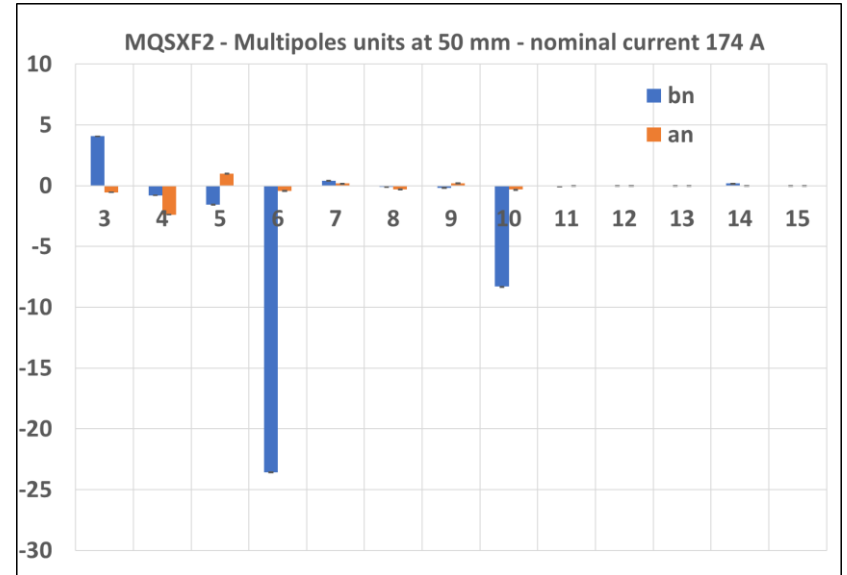
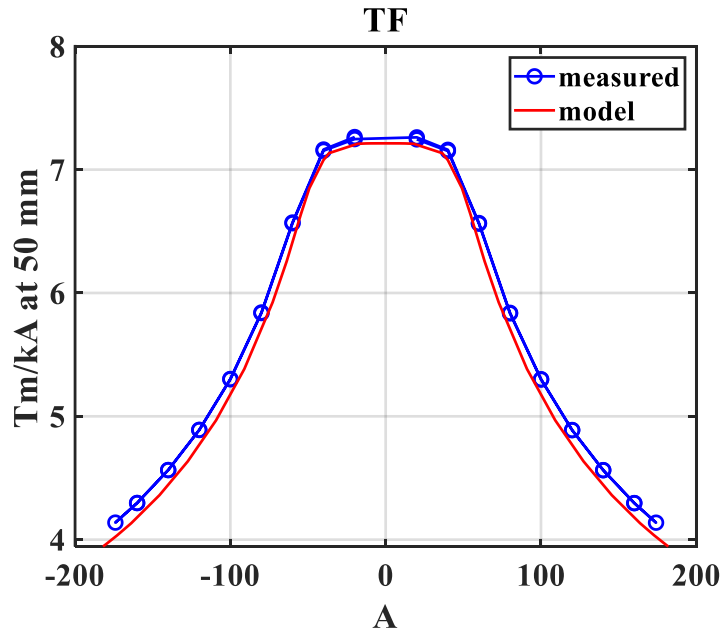
Magnetic centers



MCBXFAP1

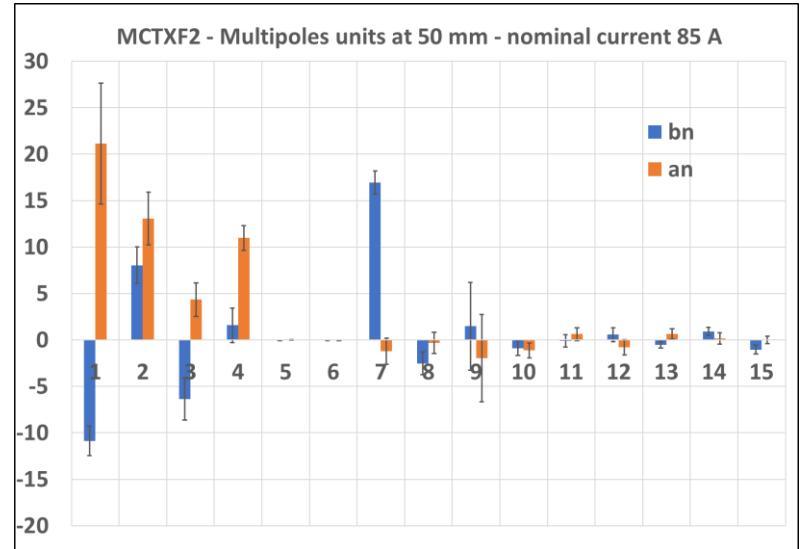
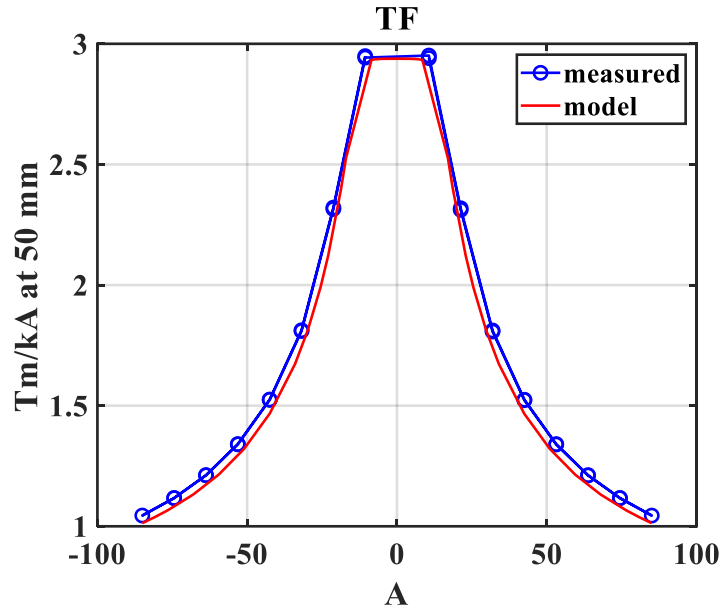
INNER at 1593A OUTER at 0A			INNER at 0A OUTER at 1340A			INNER at 1593A OUTER at 740A			INNER at 895A OUTER at 1340A		
	Unit	Value		Unit	Value		Unit	Value		Unit	Value
B1	Tm	4.499	B1	Tm	0.002	B1	Tm	4.484	B1	Tm	2.490
A1	Tm	-0.003	A1	Tm	4.514	A1	Tm	2.505	A1	Tm	4.498
n	bn	an	n	bn	an	n	bn	an	n	bn	an
2	-0.58	2.02	2	0.16	2.00	2	-0.35	-0.86	2	0.20	0.70
3	-5.83	-0.90	3	-0.97	11.49	3	-2.01	1.94	3	6.60	5.30
4	-0.95	1.64	4	-0.02	-0.00	4	-0.77	-1.43	4	-0.45	-0.76
5	-4.96	-0.95	5	-0.01	0.10	5	-3.94	0.64	5	-1.88	0.78
6	-0.27	0.29	6	-0.16	-0.55	6	-0.11	-0.56	6	0.01	-0.62
7	-1.27	-0.15	7	0.61	-2.95	7	-1.41	-1.37	7	-1.14	-2.58
8	0.05	0.16	8	-0.44	-0.44	8	0.27	-0.36	8	0.38	-0.43
9	-0.17	0.60	9	0.05	0.10	9	-0.09	-0.48	9	-0.04	-0.31
10	0.78	-0.19	10	-0.06	0.11	10	0.69	0.27	10	0.41	0.24
11	2.27	1.00	11	0.04	-0.02	11	2.06	-0.82	11	1.10	-0.47
12	-0.78	0.17	12	0.04	-0.07	12	-0.72	-0.19	12	-0.44	-0.19
13	-1.54	-0.59	13	0.07	0.07	13	-1.31	0.44	13	-0.68	0.31
14	0.11	-0.01	14	-0.25	0.01	14	0.09	-0.06	14	0.27	0.01
15	0.02	0.18	15	-0.13	0.05	15	0.01	-0.12	15	0.08	-0.14

MQSXF2



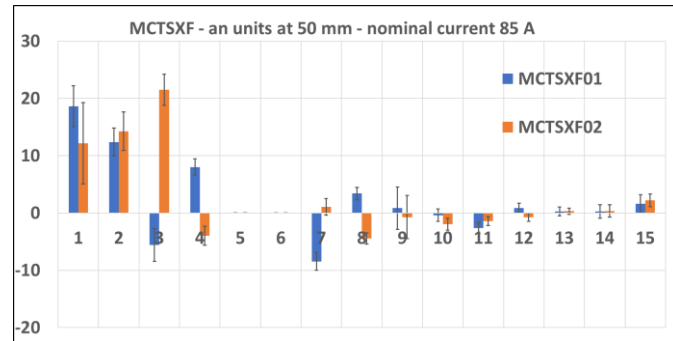
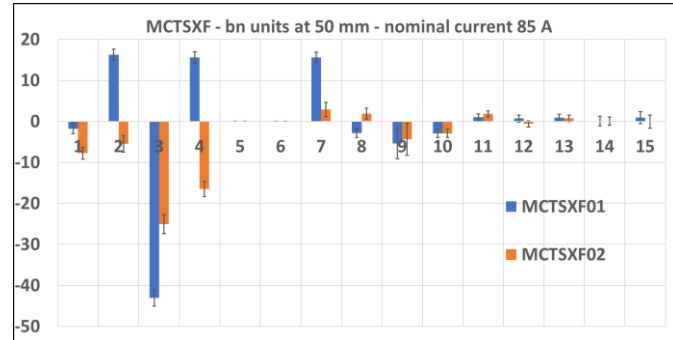
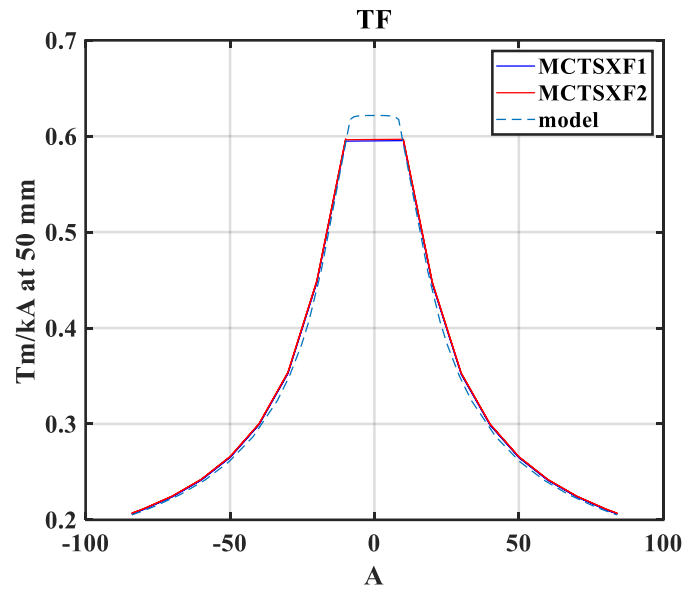
CURRENT[A]	BdL [Tmm] Calc.	BdL [Tmm] Meas.	Δ [%]
174 A	700.0	720.0	2.9
197 A	753.2	772.4	2.6

MCTXF2



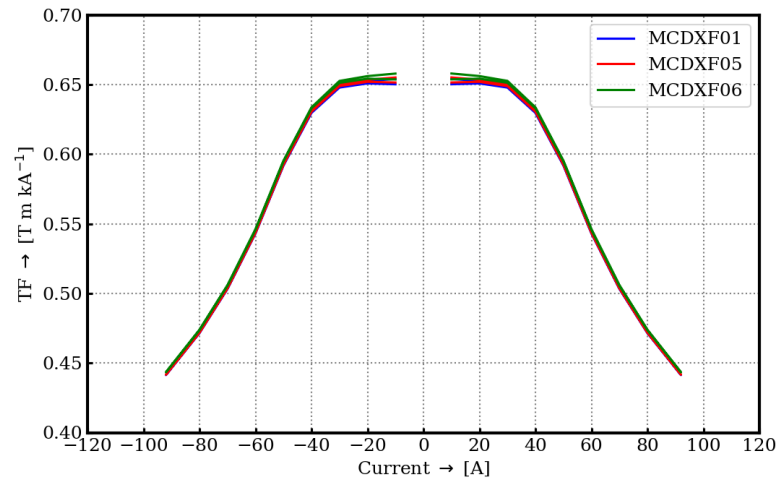
CURRENT[A]	BdL [Tmm] Calc.	BdL [Tmm] Meas.	Δ [%]
85 A	86.1	88.8	3.2
97 A	92.9	95.8	3.2

MCTSXF1



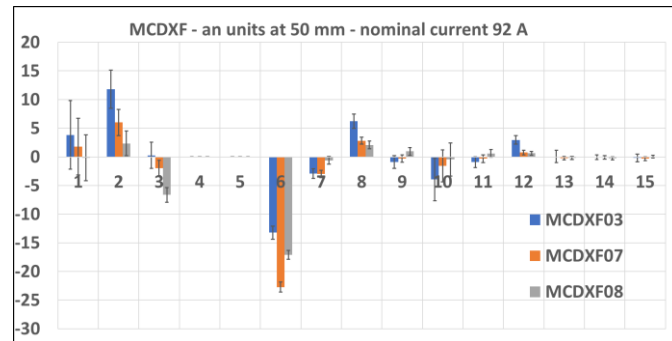
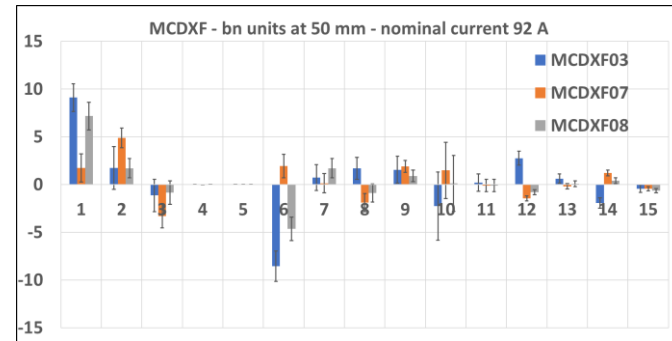
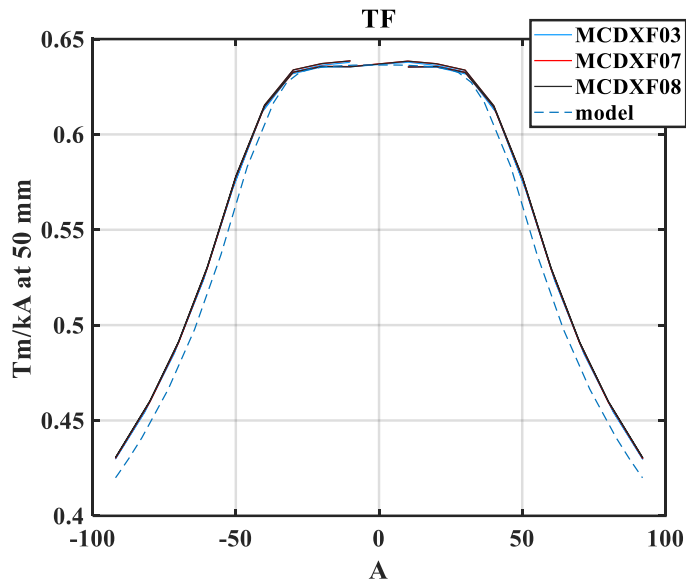
Order	Magnet	Current [A]	Model BdL [T mm]	Measured at LASA	
				BdL [T mm]	diff [%]
6S	MCTSXF01	84	17.2	17.33	0.6
	MCTSXF02			17.39	0.9

MCDXF01b



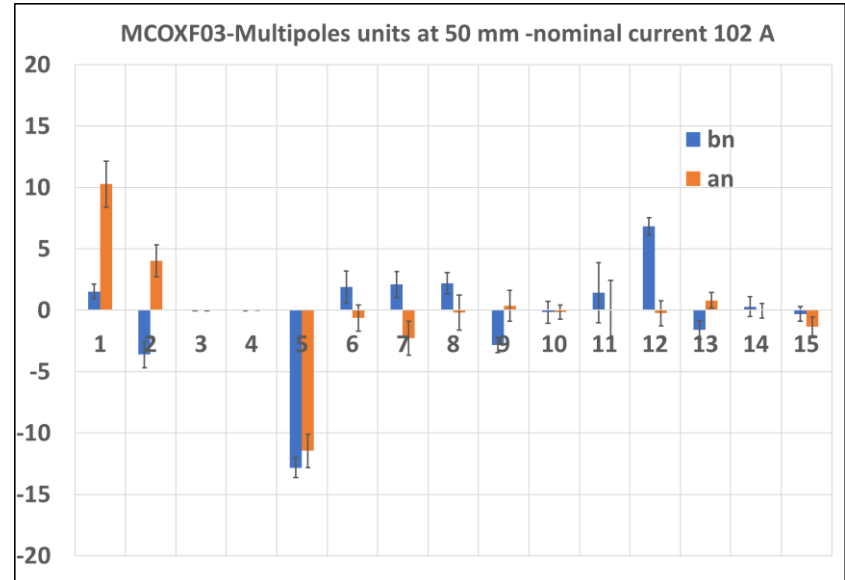
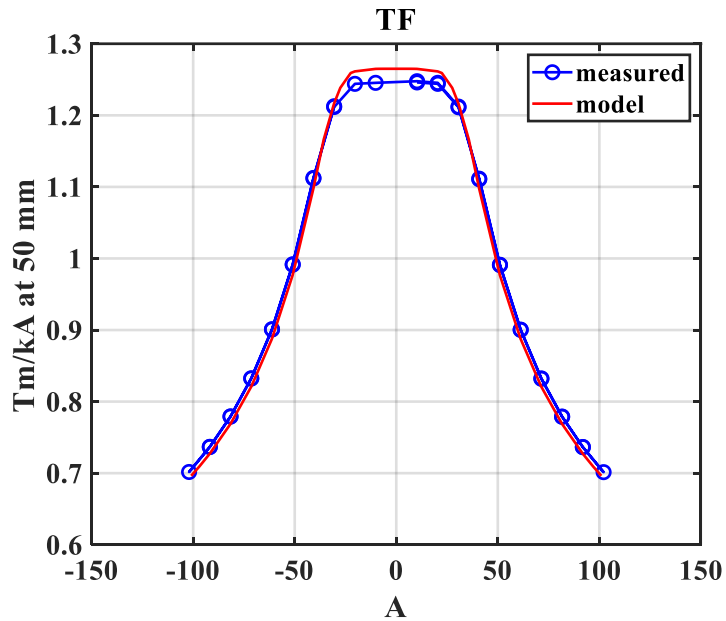
	MCDXF01		MCDXF05		MCDXF06	
I	(A)	92	92	92	92	92
TF	(T m/kA)	0.4406	0.4408	0.4426		
Integrated Strength	(T m)	0.0405	0.0406	0.0407		
n	bn	an	bn	an	bn	an
1	-1.31	-2.13	-0.45	1.09	-1.48	0.57
2	-1.89	-8.67	-3.41	-11.51	3.46	-0.82
3	3.67	-3.55	-10.77	2.04	-15.30	-8.43
4	0	0	0	0	0	0
5	10000	1	10000	-2	10000	-2
6	-0.02	14.15	-2.74	-19.34	1.55	-8.30
7	1.01	-1.02	12.34	-1.20	10.24	-1.39
8	-3.78	-4.76	-1.36	-6.19	-3.64	-3.84
9	1.95	-1.53	-2.33	3.70	-3.60	4.30
10	-4.40	-14.44	0.74	20.13	-6.68	2.02

MCDXF02 (no measurement available)



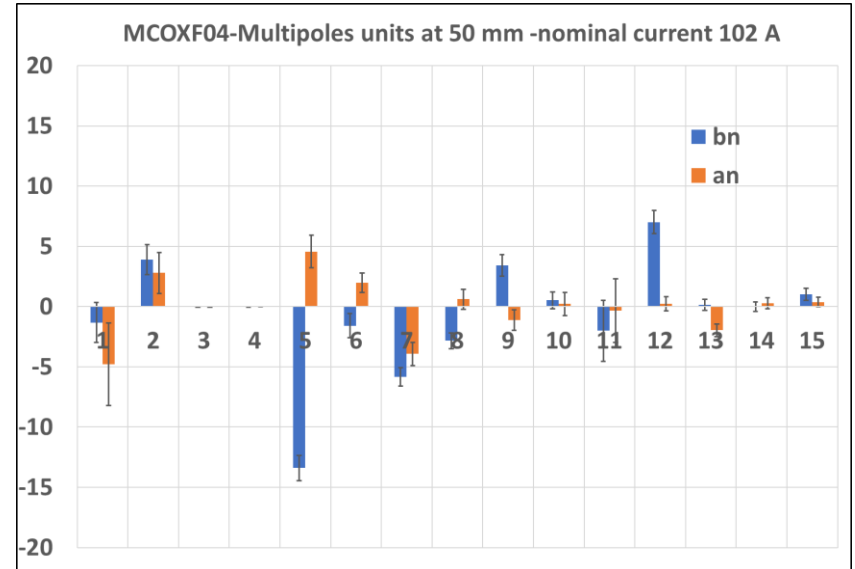
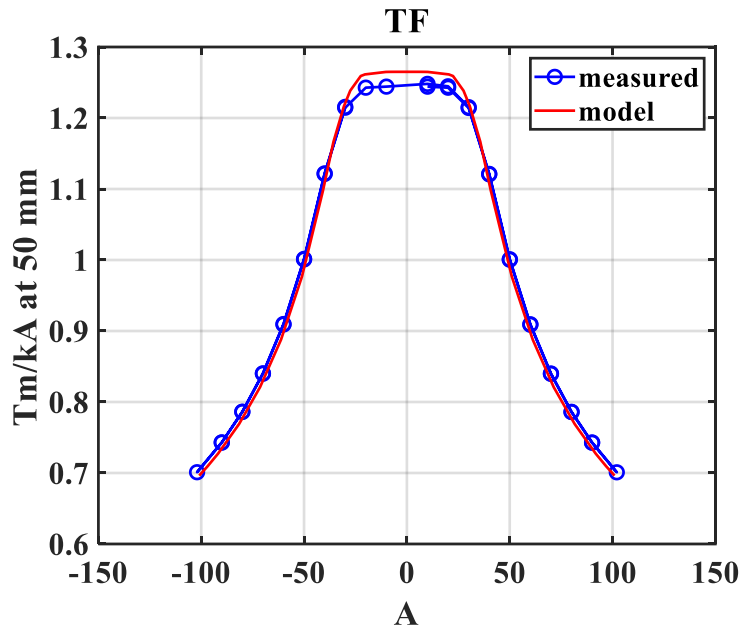
Order	Magnet	Current [A]	Model		
			BdL [T mm]	BdL [T mm]	diff [%]
5	MCDXF03	92	38.7	39.56	2.2
	MCDXF07			39.60	2.3
	MCDXF08			39.62	2.4

MCOXF03



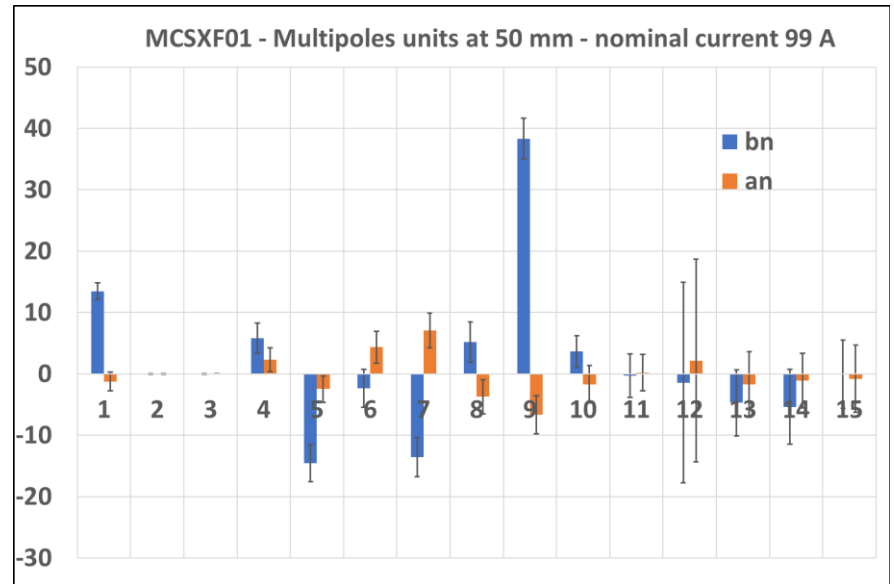
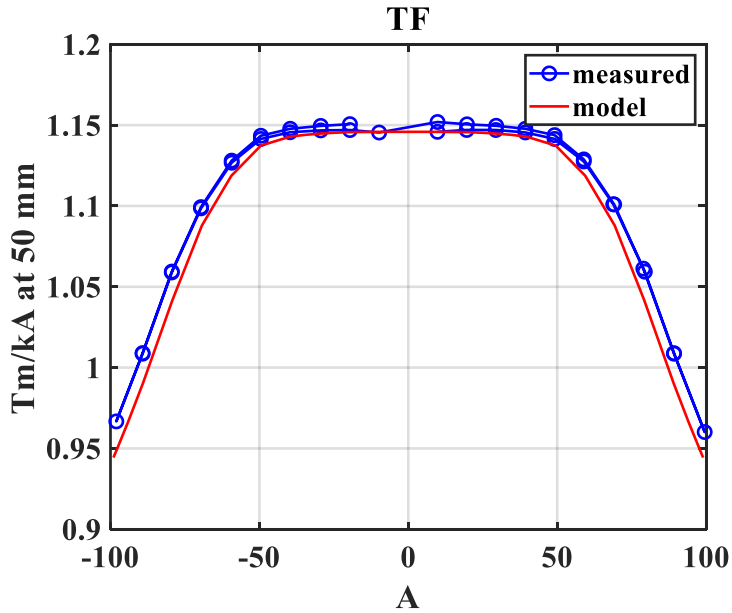
CURRENT[A]	BdL [Tmm] Calc.	BdL [Tmm] Meas.	Δ [%]
102 A	70.7	71.6	1.3
115 A	75.7	77.2	1.9

MCOXF04



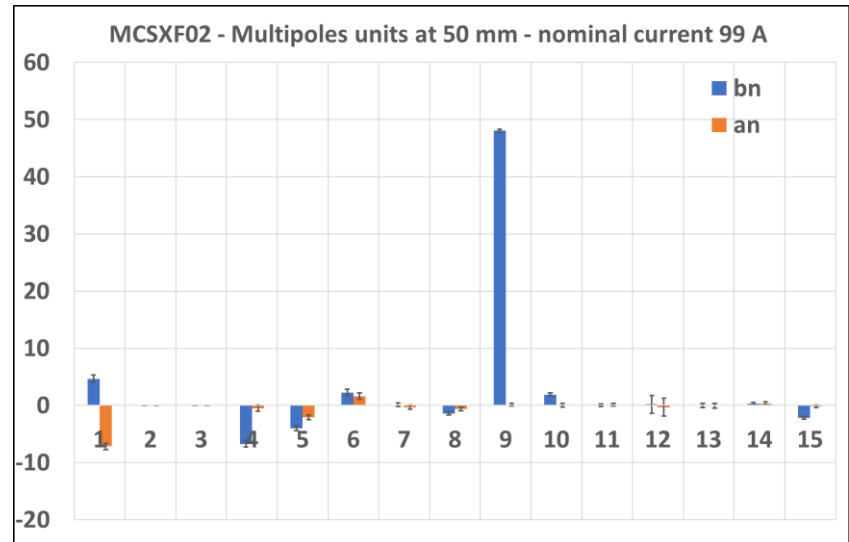
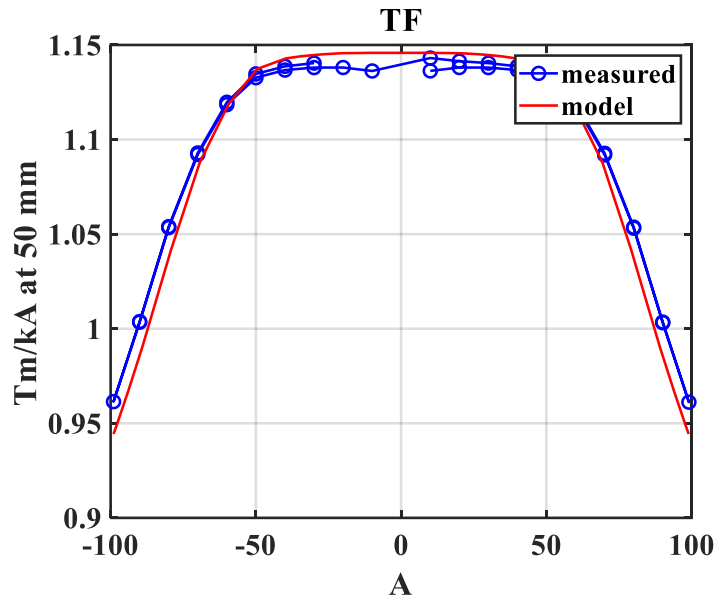
CURRENT[A]	BdL [Tmm] Calc.	BdL [Tmm] Meas.	Δ [%]
102 A	70.7	71.5	1.2
115 A	75.7	76.4	1.0

MCSXF01



CURRENT[A]	BdL [Tmm] Calc.	BdL [Tmm] Meas.	Δ [%]
99 A	93.5	95.3	1.9
112 A	100.4	101.8	1.4

MCSXF02



CURRENT[A]	BdL [Tmm] Calc.	BdL [Tmm] Meas.	Δ [%]
99 A	93.5	95.2	1.8
112 A	100.5	101.8	1.3