

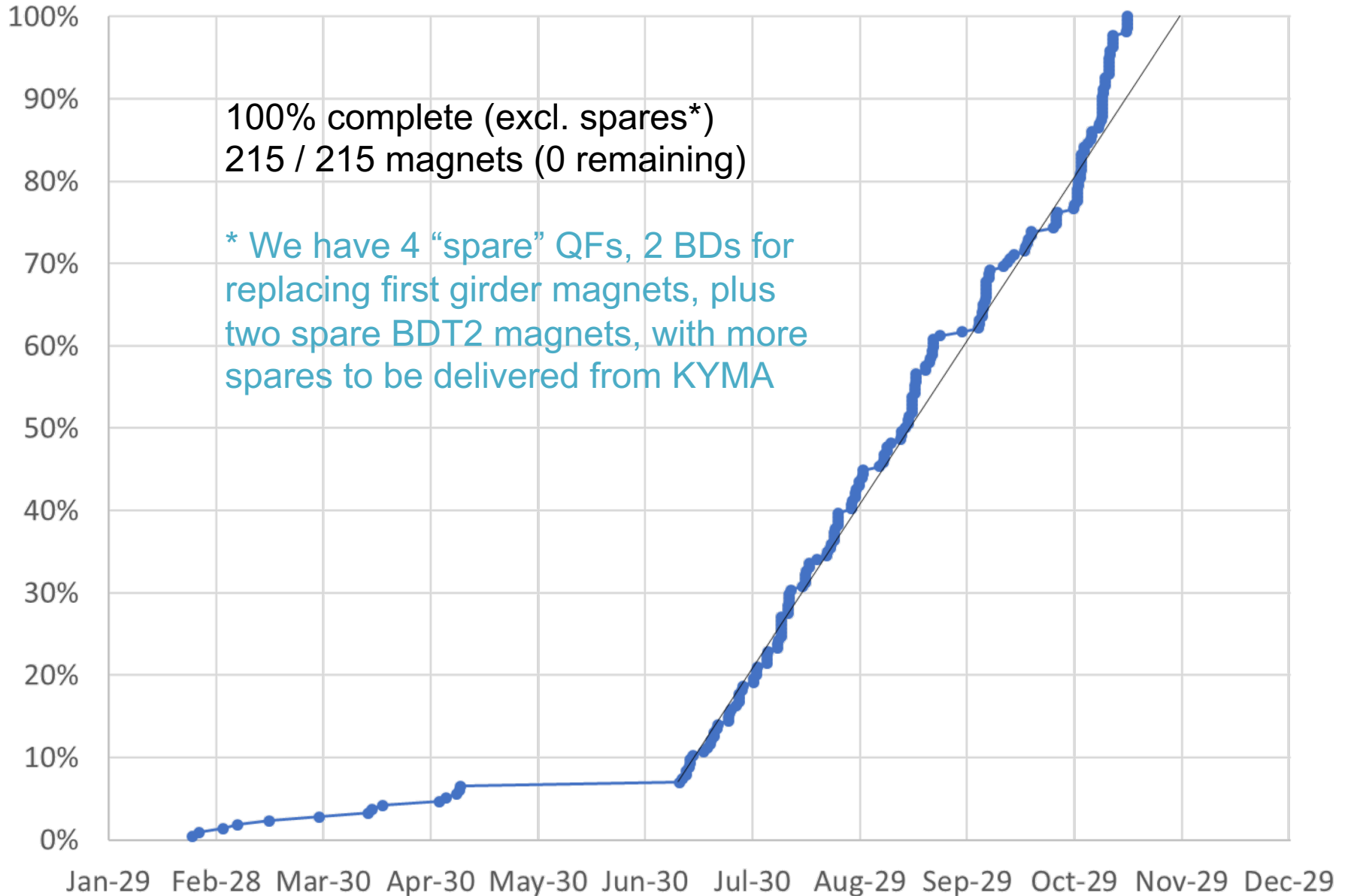
CBETA Production Magnets

BDT2 2203-2221 (2222 pending file)

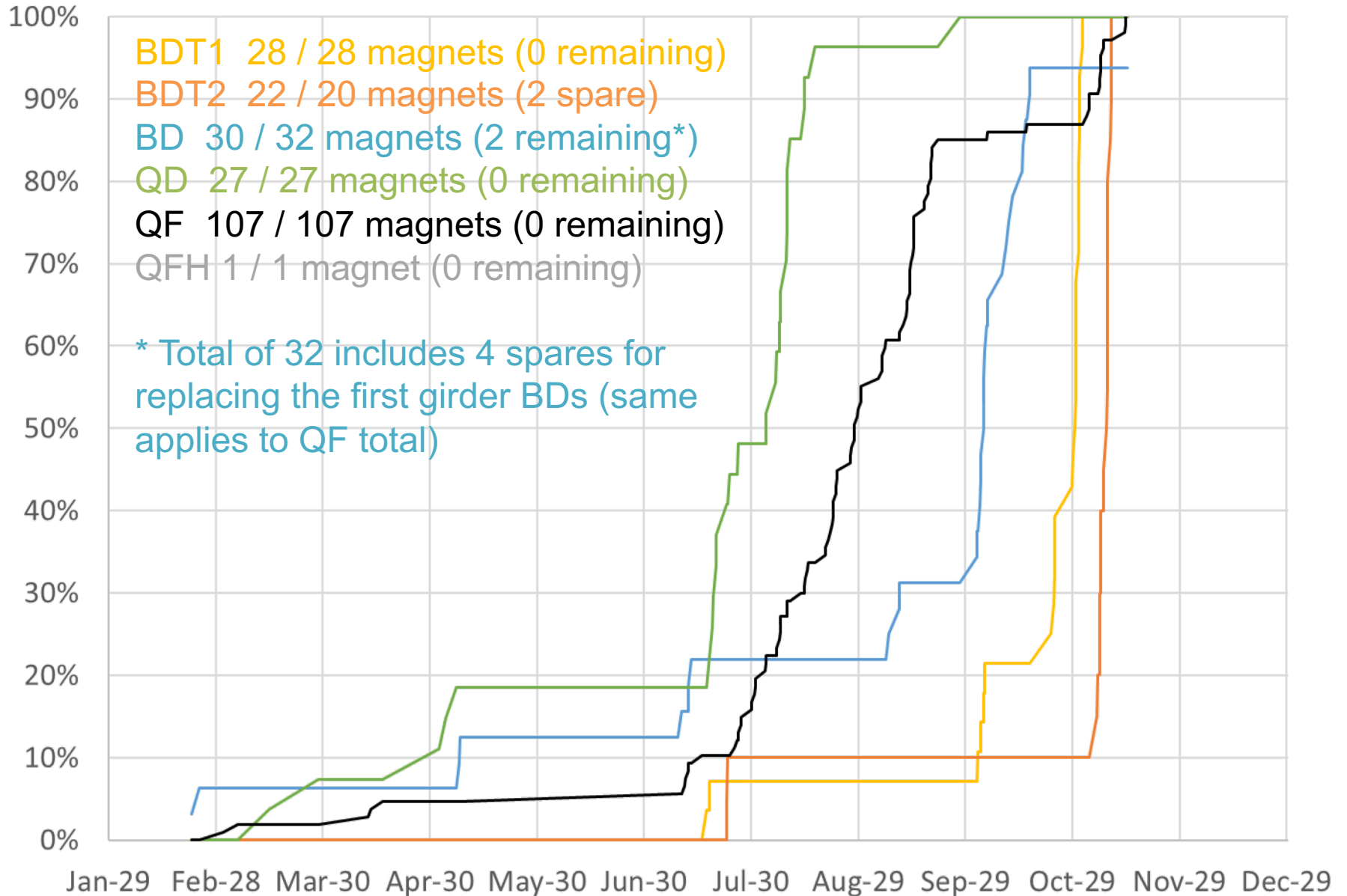
QF 2595-2608

Production complete excl. spares!

Fraction of Magnets Tuned



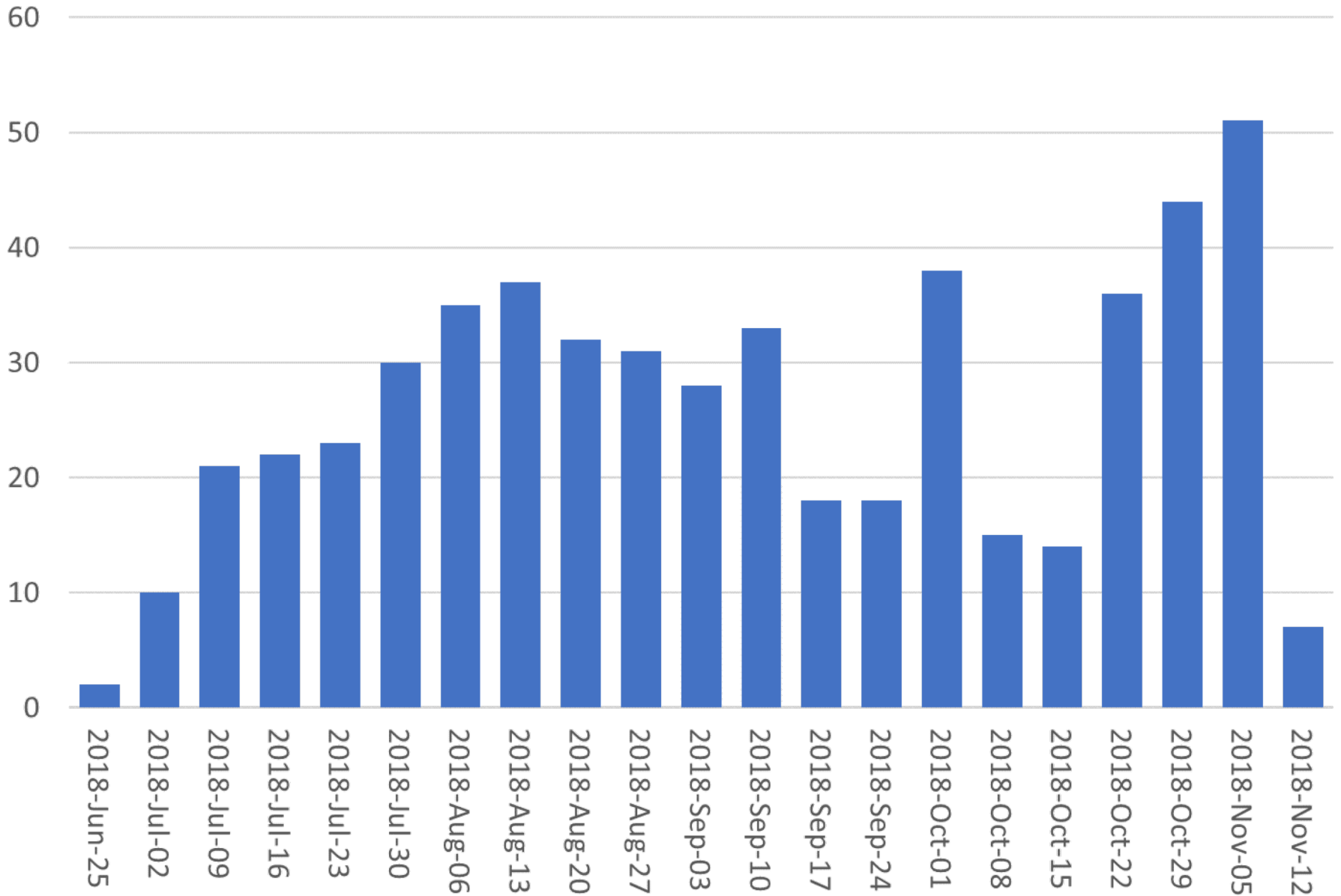
— BDT1 fraction — BDT2 fraction — BD fraction — QD fraction — QF fraction



Final Measurement Rate

Main Production	
Magnets tuned	200 (excl. early samples)
Rotating coil measurements	545
Start date	July 9, 2018
End date	November 14, 2018
Total weeks	18.2
Magnets tuned per week (avg.)	10.96
Rotating coil meas. per week (avg.)	29.88
Rotating coil meas. per magnet (avg.)	2.73

Coil Measurements Per Week

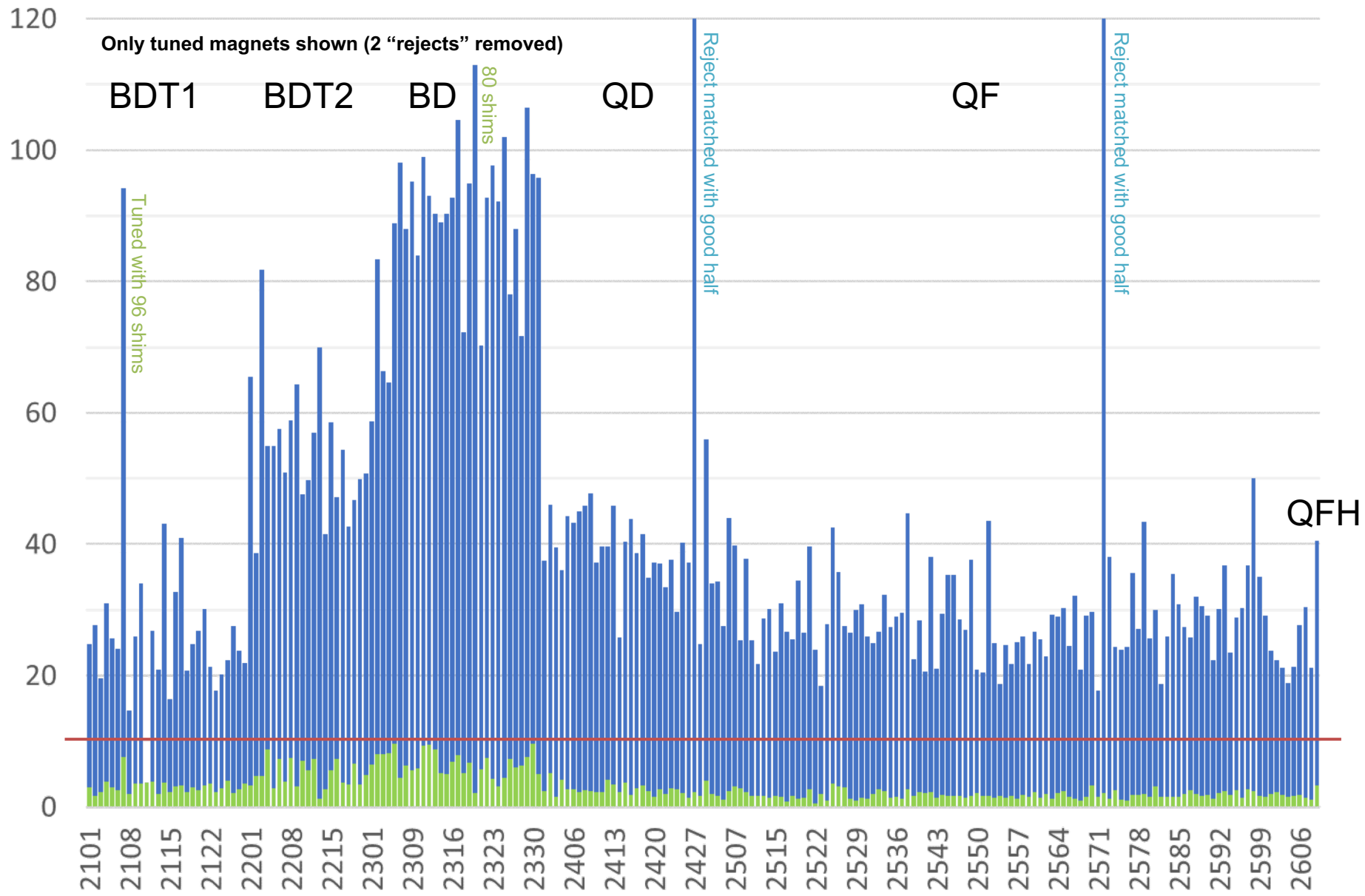


Tuned Magnets Criteria

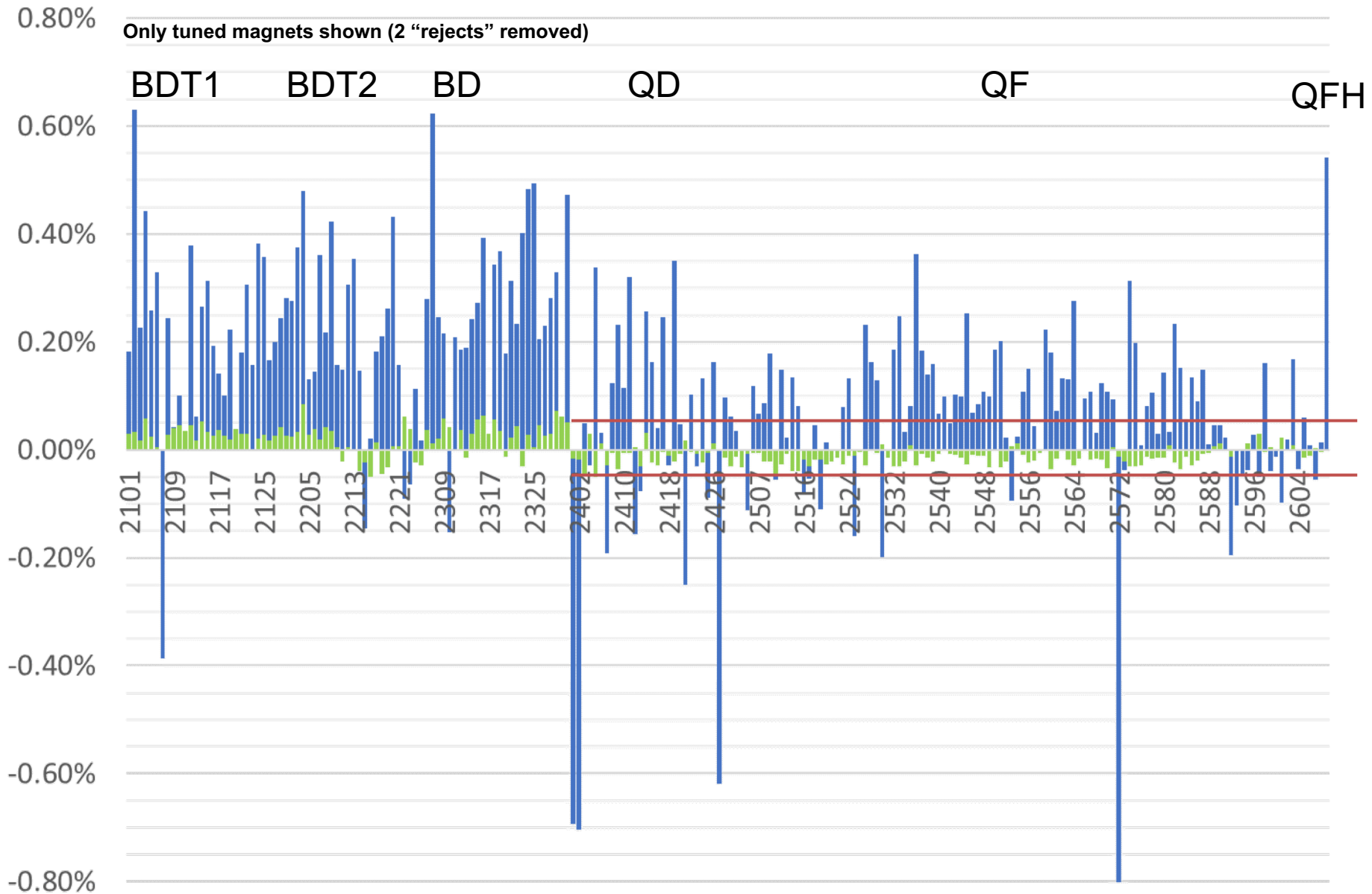
Midplane error (G)	Units FOM	CBETA FOM	Quad error at x=0 (rel.)
≤ 1.5	≤ 10	≤ 0.375	$\leq 0.05\%$ (Q)

- For full data see spreadsheets “initialmagnets” “finalmagnets”
- Midplane error generally hardest to achieve
 - May go in and out of spec slightly ($\sim 0.5\text{G}$) due to chiller cycle
- Achieving all the above triggers “quick accept”

■ Initial FOM (units) ■ Tuned FOM (units)

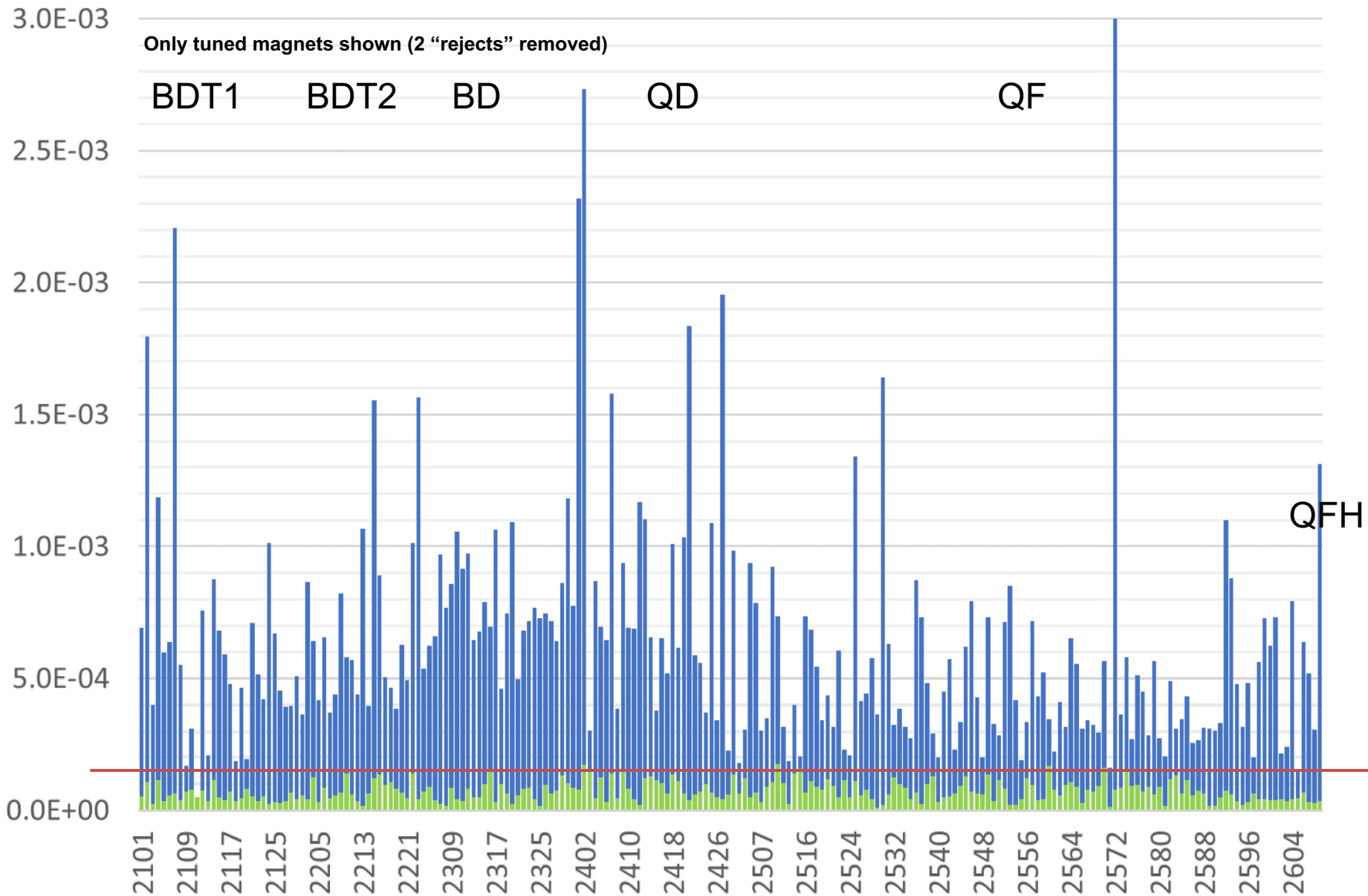


■ Initial quad error (rel.) ■ Tuned quad error (rel.)

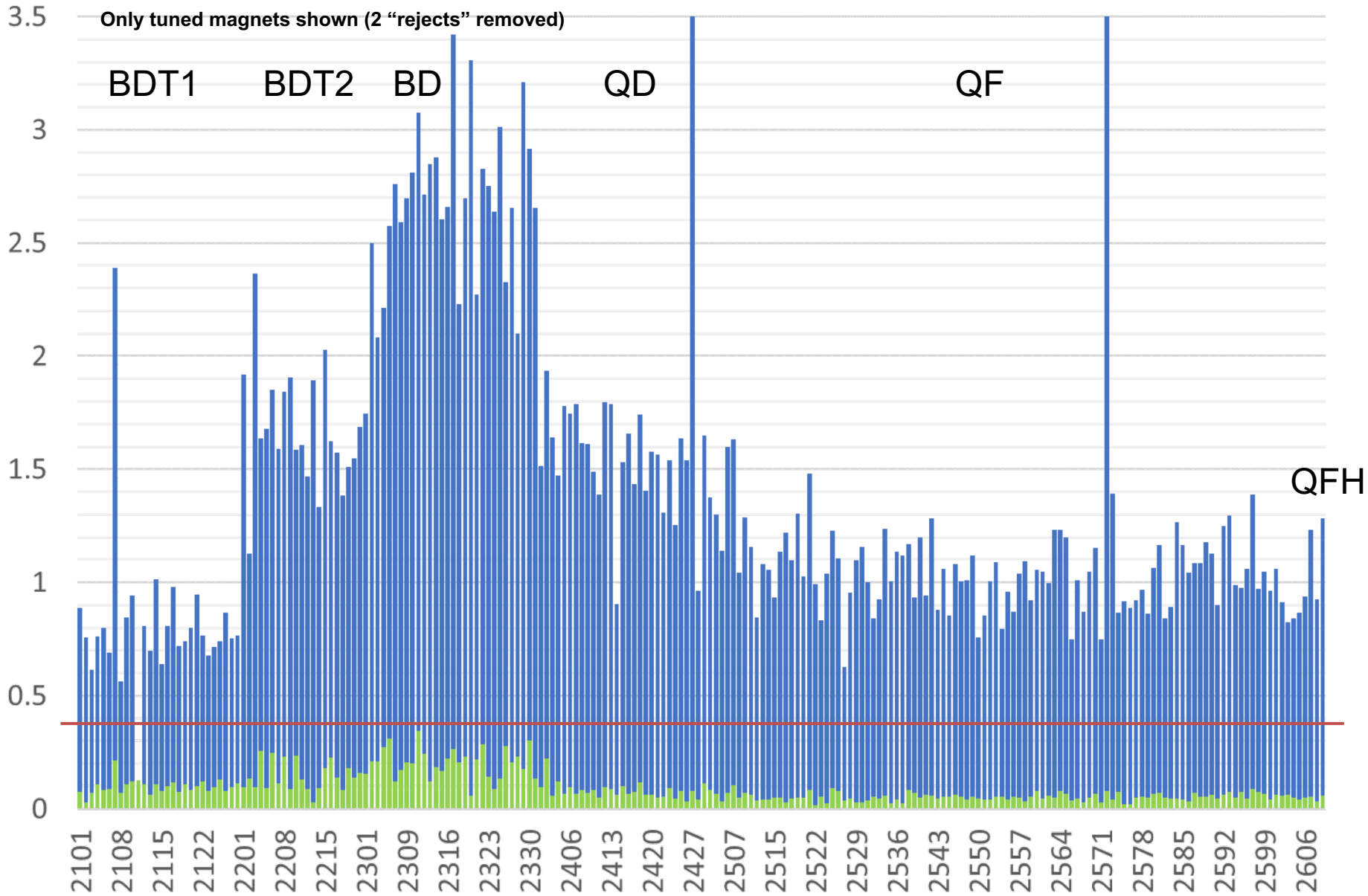


■ Initial max. midplane field error (T)

■ Tuned max. midplane field error (T)



Initial CBETA_FOM Tuned CBETA_FOM



Status

- All magnets required for deadline are measured, all magnets at BNL are measured
- For replacing first girder
 - Four QF magnets 2605-2608 are measured
 - Two BD magnets measured, two to be delivered
- Other spares
 - Two BDT2 magnets measured
 - Two each of QD, BDT1 to be delivered

Girders

- As of Monday 19th 10am, need windowframe corrector magnets for FB GD4 and TB GD1
 - Delivery might be later Monday?
- Then just wiring and final gaps check

FA GD1 old	FB GD1	TA GD1	TB GD1	ZA GD1	Not started U/C Chamber only Under construction Complete at BNL Delivered to Cornell
FA GD1 new	FB GD2	TA GD2	TB GD2	ZA GD2	
FA GD2	FB GD3	TA GD3	TB GD3	ZA GD3	
FA GD3	FB GD4	TA GD4	TB GD4	ZM GD	
FA GD4		TA GD5	TB GD5	ZB GD1	
		TA GD6	TB GD6	ZB GD2	
				ZB GD3	

Misc to-do (Mon a.m.)

- One magnet on girder has gaps, needs reassembly
- 4 holes need to be drilled and tapped in girder FB GD4
- ~6 pairs of base brackets need holes drilled and tapped
- One (spare) BD magnet has block coming out, needs to be re-epoxied, remeasured later