


Status of MP checks for the LHC collimation system


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244th Machine Protection Panel Meeting



Overview MP checks

	Status
Position/Gap Interlocks	
Local Mode Interlock	
Test Power Cut and PRS Reboot Interlock	
Test temperature interlock	
Test RBAC interlock	
Test MCS-Collimator role info	
Goniometers Replacement Chamber Interlock	

 Collimation system testing and commissioning, following the MPS procedure EDMS-889345.

- ✓ Position, energy, β^* limits of all ring collimators tested and validated
- ✓ Local mode interlock carried out for one ring collimator per BIC
- ✓ PRS reboot carried out for one ring collimator per BIC
- ✓ Temperature completed for all ring collimators
- ✓ No devices in the inconsistency list found with Parameter Configuration Application
- ✓ Only interlock on replacement pipe tested
- ✓ Interlock on limits postponed to new FESA class validation (crystals not used with p)

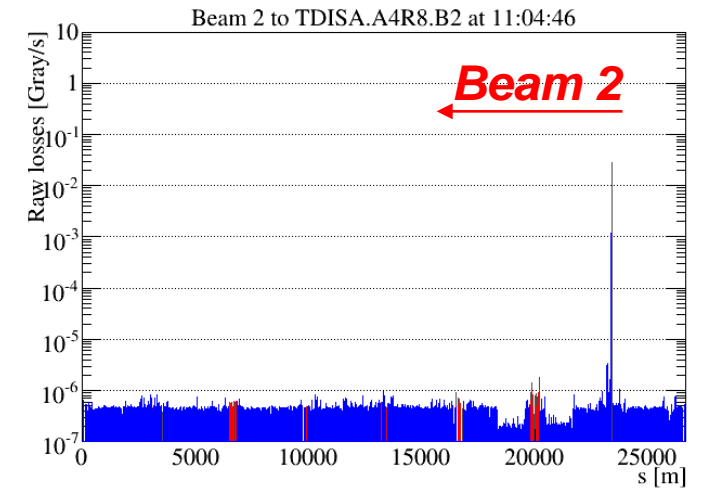
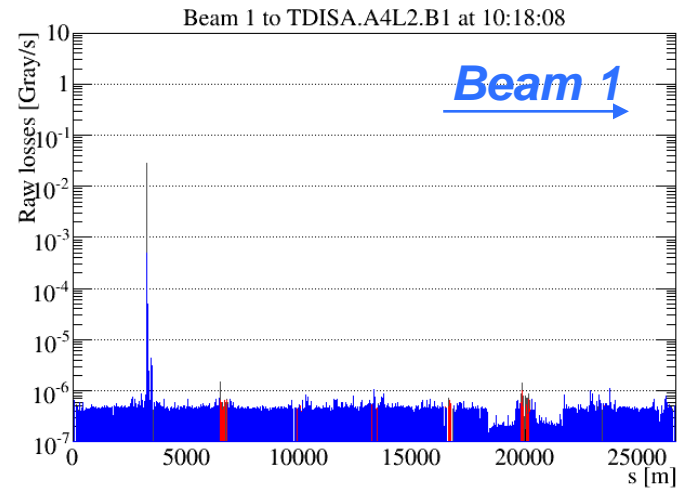
Links to the elog and collimation web page with detailed information in the checklist

Status waiting for first beams – Threading

- Beam left “circulating” step-by-step: collimators used to stop the beam in each IR (except IR4...)

 *a.k.a. Threading*

Beam 1	Beam 2
TDIS[A B].A4L2.B1	TDIS[A B].A4R8.B2
TCP.6L3.B1	TCP.B6R7.B2
TCTPV.4L5.B1	TCSP.A4L6.B2
TCSP.A4R6.B1	TCTPV.4R5.B2
TCP.B6L7.B1	TCP.6R3.B2
TCTPH.4L8.B1	TCTPH.4R2.B2
TCTPH.4L1.B1	TCTPH.4R1.B2



Ring coll. at: LD = 0.5mm, LU = -1mm, RD = -1mm, RU = -2.5mm
 TDIS[A|B] at: L = [4.0|-2.5], D = [2.5|-4.0]

BP and sequences tested and ready for first beam

Status waiting for first beams – Coarse settings

- Reduced set of collimators at **COARSE** settings

Assuming no surprises will be found in aperture measurements!

Collimator	IR	Setting		
		Inj.	FT (first ramp)	FT (if squeezing or INDIV)
TCP (H&V)	7	8 σ	20 σ	8 σ
TCSP	6	9 σ	25 σ	9 σ
TCP	3	12 σ	30 σ	30 σ
TCTP	1/2/5/8	± 15 mm	± 15 mm	10 σ / ± 15 mm/10 σ /15 σ (@30cm)
TCDQ	6	20 mm	20 mm	20 mm

- ✓ **Linear interpolation** of settings from **injection to FT**
- ✓ **Two set of FT settings** defined whether or not beams get squeezed: **collimators kept fixed after reaching FT**

BP and sequences for coarse settings ready



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