

MD block no. 3 update
with input from
LMC meetings #148 & 149

Giulia Papotti, Frank Zimmermann



Proposal for MD#3 – Giulia Papotti LMC #148

top priority

- ramp for e-cloud (12+2 hours)
 - LR BB 25 ns (8+2)
 - instrumentation (8+2)
 - beta* levelling from 11 m (8+2)
 - instability with one beam (6+2)
 - 2-beam impedance (8+2)
 - high beta (8+2)
 - emittance preservation studies (8+2)
 - including different ADT gains
 - optics during ramp and IR non linearities (8+2)
 - losses with ADT and MKQ (4+2)
 - RF phase modulation on 1 turn (6)
 - inj matching and SPS tails (6)
- total = 110 hours**
- beta*=40 cm, nominal optics (8+2)
 - collimation hierarchy limits(8+2)
 - longitudinal impedance at flat top (4+2)

could wait for MD#4



Not yet scheduled – Giulia Papotti LMC #148

- MKI UFOs (8)
- dl/dt tests (8+2)
- ADT white noise losses (4+2)
- MQY transfer function (4+2)
- aperture checks of both sides of the aperture (6+2)
- IR8 aperture limits at injection (2)
- localization of transverse impedance at injection (2)
- TCDQ impedance (2)
- collimation impedance (4)
- test of TCDI automatic setup software (4)
- transverse noise in collisions (6+2)
- flat beams optics (8?+2)
- ATS (10+2)
- Large Piwinski Angle (8)
- high pile up with small offset (8+2)
- TMCI study (6+2)
- emittance blowup at inj without octupoles from 2011 (6)
- total: 110 hours
 - could go in MD#4 or floating MD



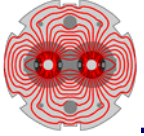
Operational developments and others

■ operational developments

- tune measurement from ADT
- ADT enhanced frequency response (30')
- few pilot injections for coupling correction software (30')
- longitudinal damper commissioning
- batch-by-batch blow up (quite advanced already)
- momentum collimators to tighter settings for abort gap (EoF)

■ others

- assume Q' measurement done in test ramp for recovery after TS
- 288-b injection for ring 2 before scrubbing run
- UFOs with 25 ns beams parasitic to physics running



Proposed plan for 4 TeV 25 ns studies

	Time	# bunches/beam
Validation	3 shifts	2-3
Ramp down and Recovery	2 h	
Long range beam-beam MD (IR1/5)	5 h	72+12
Long range beam-beam MD (IR1/2/5/8)	5 h	2x72+12
Ramp down and Recovery	2 h	
E-cloud ramp (no squeeze)	6 h	~400 (tbc)
E-cloud ramp (no squeeze)	6 h	~800 (tbc)
Ramp down and Recovery	2 h	
Physics fill?		

For approval of LMC and rMPP



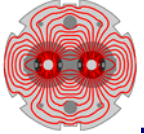
Proposal for MD#3 – updated after LMC#149

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total = 114 hours

could wait for MD#4



revised draft schedule – Mike Lamont LMC #149

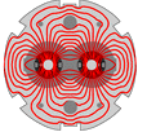
	Oct			Nov							Dec		
Wk	40	41	42	43	44	45	46	47	48	49	50	51	52
Mo	1	25 ns set-up	15	22	29	5	12	19	25 ns physics	3	10	17	24
Tu		MD 3		Floating MD [24 h] 500+ m [24 h]					MD 4			STANDBY	Xmas
We													
Th	Scrubbing run												
Fr													
Sa													
Su													

~3 shifts – 25 ns setup

~1 to 2 days – 25 ns physics

now total time available in MD block no. 3 = 104 h (10 hours too little)

we lost two shifts of MD time; could we extend floating MD in week 43?



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floating MD?

could wait for MD#4



Draft MD Planning Tue – Wed (9. – 10.10.)

Day	Time	MD	MP
Tue	00:00	<i>Ramp down, cycle, refill (if required)</i>	
	02:00	450 GeV → 4 TeV: <u>Beam instrumentation (BSRT, wire scan, Headtail monitor?, Schottky?, BGI?...)</u>	
	10:00	<i>Ramp down, cycle, refill (if required)</i>	
	12:00	450 GeV → 4 TeV (2x): <u>ramp(s) for e-cloud at 4 TeV</u>	
	24:00	<i>Ramp down, cycle</i>	
Wed	02:00	450 GeV → 4 TeV: <u>long-range beam-beam MD</u>	
	12:00	<i>Ramp down, cycle</i>	
	14:00	450 GeV → 4 TeV: <u>beta* leveling from 11 mm</u>	
	22:00	<i>Ramp down, cycle.</i>	



Draft MD Planning Thu – Sat (11. – 13.10.)

Day	Time	MD	MP
Thu	0:00	450 GeV → 4 TeV: <u>instability with one beam</u>	
	06:00	<i>Ramp down, cycle, refill (if required)</i>	
	08:00	450 GeV → 4 TeV: <u>high beta*</u>	
	16:00	<i>Ramp down, cycle, refill (if required)</i>	
	18:00	450 GeV → 4 TeV: <u>emittance preservation</u>	
Fri	02:00	<i>Ramp down, cycle, refill (if required)</i>	
	02:00	450 GeV → 4 TeV: <u>optics during ramp & IR nonlinearities</u>	
	12:00	<i>Ramp down, cycle</i>	
	14:00	450 GeV → 4 TeV: <u>losses with ADT & MKQ</u>	
	18:00	<i>Ramp down, cycle</i>	
	20:00	450 GeV: <u>injection matching & SPS tails</u>	
Sat	02:00	450 GeV: <u>RF phase modulation on 1 turn</u>	
	08:00	<i>End of MD</i>	