BI MD 2012 REQUESTS

LSWG 08-Dec-2012

BI MD Requests 2012

Study response to hor slits

Establish minimum beam

intensity for allowing enough

signal/noise with present system

MATCHI

NG

Monitor	Description	Remarks	E	Beam Types			Time
				p/bunch	Patterns	Emit	111110
BCT FBCT	Test new FBCT prototype to be installed during xstmas shutdown, in order to verify -bunch length dependence -beam orbit dependence	-Possibly included in BI blocks to maximize studies in parallel -Variable bunch length -Bumps	450+ 3500	xx	xx	any	xx
ВРМ	Non linearity for each BPM type, by mapping a H/V grid with bumps	-Results have a direct impact on aperture measurements, so it would be advisable to	450	xx	1	any	8h
	BPM offset and polarity checks	foresee these studies very early in the run		xx	1	any	8h
	BPMSW relative phasing	-Requested but not completed in 2011 -Possibly included in BI blocks to maximize studies in parallel	450	хх	1+1	any	2h
	BPMWF response to different orbit modes			xx	xx	any	2h
	K-mod of triplet BPMs and other critical locations	-determine BPM center -done after each TS (not MD time?)	450	probe	1	any	4x1h
BGI	Magnetic field impact on the image Absolute calibration with bumps Sensitivity vs pressure and energy Pressure Evaluation around BGI with BLMs	-Possibly included in BI blocks to maximize studies in parallel -Bumps -gas injection	450+ 3500	xx	xx	Uniform over bunches	xx
BSRT	Calibration B1 system vs WS, re-check B2	-Not completed 2011 - Bumps -Possibly included in BI blocks to maximize studies in parallel	450+ 3500	Variania	variable	variable	>=3h
	Additional studies about detectors response vs bunch intensity, camera gains, color filters						xx

Inj and Dump into empty machine with

allowed

variable bunch intensities, up to maximum

450

variable

1

>=2h

>=2h

variable

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Monitor	Description	Remarks	E	Beam Types			
				p/bunch	Bunch Patterns	Emit	Time
BLM	Direct Dump BLMs calibration	-Not finished in 2011 -inj and dump	450	variable	1	any	2h
LDM	Study response to variable beam sizes	Possibly included in BI blocks to maximize studies in parallel	450+ 3500	xx	xx	variable	xx
ws	Emittance comparison between SPS and LHC at injection	bunch by bunch is being tested in the SPS BWS 416	450	variable	xx	variable	xx
	test of automated settings determination for the PMT gain and filter	When available during the year Turn mode at first, later 40 MHz	450+ 3500	variable	xx	variable	xx
Q-Meas	Co-existence of the tune measurement and the damper systems (test various Q/Q' diagnostics schemes)	Complementary to W.Hofle MD	450+ 3500	xx	1	any	3x4h
Q/Q' meas	Lifetime and emittance dependence on Q/Q'	-dQ<0.001 and dQ'<1, not met by present systems -Determine whether we can relax the requirements on Q/Q' control, e.g. lower FB bandwidth, larger Q', etc.	450+ 3500	xx	xx	variable	2x8h
OFC/OF SU	-validate new and/or modified OFC/OFSU schemes and Settingstest new control aspects to verify new OFC/OFSU versions which we are not allowed to deploy operationally otherwise	Can be done during commisioning (not MD)	450+ 3500	probe	1	any	4x4h

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Monitor	Description	Remarks	E	Beam Types			
				p/bunch	Bunch Patterns	Emit	Time
Head- Tail and Wall Current Monitors	-Beam-based HT and WCM calibration and tests -compensate for system effects that presently perturb the ghost/satellite	-need short bunch -needed to test the new instability trigger scheme in a controlled/known environment prior to being operationally use during the ABP-driven high-intensity MDs	3500	>2e11	1	any	3x2h
BBQ Pt7	Continuous beta-beat measurements alternative to BPM method	Could be done in parallel for the beta-beat electronic (<1 um oscillations) but may nevertheless need dedicated beam, since the BPM can achieve this only with larger AC-dipole driven excitations.	3500	probe	1	any	2x4h
AGM	Possibly test new optical line (to decouple steering from BSRT)	-closed orbit bumps	450+ 3500	xx	xx	xx	xx