## BI MD 2012 REQUESTS

LSWG 08-Dec-2012

## BI MD Requests 2012

| Monitor      | Description Re   | Remarks   | E            | Beam Types |          |                            | Time |
|--------------|--|---|--------------|------------|----------|----------------------------|------|
|              |  |   |              | p/bunch    | Patterns | Emit                       | Time |
| BCT<br>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+<br>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 foresee these studies very early in the run | 450          | xx         | 1        | any                        | 8h   |
|              | BPM offset and polarity checks   |   |              | xx         | 1        | any                        | 8h   |
|              | BPMSW relative phasing   | -Requested but not completed in 2011<br>-Possibly included in BI blocks to maximize<br>studies in parallel                      | 450          | xx         | 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+<br>3500 | xx         | xx       | Uniform<br>over<br>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+<br>3500 | variable   | variable | variable                   | >=3h |
|              | Additional studies about detectors response vs bunch intensity, camera gains, color filters  |   |              |            |          |                            | xx   |
|              | Study response to hor slits  |   |              |            |          |                            | >=2h |
| MATCHI<br>NG | Establish minimum beam intensity for allowing enough signal/noise with present system  | Inj and Dump into empty machine with variable bunch intensities, up to maximum allowed  | 450          | variable   | 1        | variable                   | >=2h |

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| BLM          | Direct Dump BLMs calibration   | -Not finished in 2011<br>-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+<br>3500 | xx         | xx                | variable | xx   |
|              | Emittance comparison between SPS and LHC at injection  | bunch by bunch is being tested in the SPS<br>BWS 416   | 450          | variable   | xx                | variable | xx   |
| ws           | test of automated settings<br>determination for the PMT gain<br>and filter   | When available during the year<br>Turn mode at first, later 40 MHz   | 450+<br>3500 | variable   | xx                | variable | xx   |
| Q-Meas       | Co-existence of the tune<br>measurement and the damper<br>systems (test various Q/Q'<br>diagnostics schemes)   | Complementary to W.Hofle MD  | 450+<br>3500 | xx         | 1                 | any      | 3x4h |
| Q/Q'<br>meas | Lifetime and emittance<br>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+<br>3500 | xx         | xx                | variable | 2x8h |
| OFC/<br>OFSU | -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+<br>3500 | probe      | 1                 | any      | 4x4h |

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| Head-Tail<br>and Wall<br>Current<br>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<br>measurements alternative to<br>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+<br>3500 | xx         | xx                | xx   | xx   |
|  |  |   |              |            |                   |      |      |
|  |  |   |              |            |                   |      |      |
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