

rMPP meeting on BB ion MD approval

The meeting took place on Tuesday, **October 24th, 2023, 14.00h-14.30h**, via zoom.

Participants:

R. Bruce, A. Butterworth, Y. Dutheil, C. Hernalsteens, G. Iadarola, M. Hostettler, S. Kostoglou, G. Sterbini, A. Verweij, C. Wiesner, D. Wollmann,

The Indico page of the meeting can be found [here](#).

1 Introduction

C. Wiesner welcomed the participants and summarised the status:

- MD10703 (“Ions BB limit varying the crossing angles”) had been discussed and approved in the rMPP meeting on October, 11th, 2023 ([Indico](#)).
- The MD procedure included:
 - 160 bunches per beam
 - Reduction of crossing angle in all IPs and change of TCT/TCL centers (not gaps)
- In the meantime, loss maps and an Asynchronous Beam Dump (ASD) Test have been successfully performed and validated with the minimum crossing angles.
- As the MD could not take place in the foreseen slot, the new proposal is to perform the MD in a reduced version as an End-of-Fill MD.
- This implies performing the MD with a full machine (>1000 bunches) but at lower bunch intensity.

2 Discussion

- C. Wiesner asked how the procedure would change between the original MD proposal and the End-of-Fill MD. G. Sterbini replied that the plan would be, after a certain time in Stable Beams, to go back to ADJUST, mask the PCInterlock, slowly reduce the crossing angle simultaneously in the four IPs, and observe the beam lifetime. The maximum reduction of the crossing angle would be 100 urad.
- D. Wollmann highlighted that, compared to the original procedure with 160 bunches, the higher number of bunches increases the probability of kicking them in case of an ASD.
- Y. Dutheil confirmed that the ASD test is validated and that he has no objections to the higher number of bunches.
- M. Hostettler remarked that the crossing angles would be changed adiabatically in small steps. G. Sterbini added that 20 steps of 5 urad are foreseen with several minutes waiting time between the steps.
- M. Hostettler proposed to perform emittance scans using the lumi server after having reached the minimum crossing angle.
- G. Sterbini agreed to **prepare a new, dedicated procedure for the End-of-Fill MD** (uploaded on [ASM](#) after the meeting).

- D. Wollmann commented that the general approach is to validate new configurations with an appropriate intensity ramp-up before going to a full machine. Therefore, a limit of the total beam intensity must be defined for the MD.
- **It was decided that the maximum allowed total intensity at the time of the MD is 7e12 charges (max. of Beam 1 or Beam 2).**
- C. Wiesner commented that the **required recovery needs to be included in the MD procedure.** G. Sterbini agreed. M. Hostettler confirmed that the PCInterlock has to be unmasked after the MD, while the applied crossing angle changes, tune trims and collimation limits will be automatically reset.

The MD was approved with the conditions mentioned above.

C. Wiesner thanked all participants and closed the meeting.