

EIC IR Design Meeting

Draft Minutes for Friday, August 7, 2020

Agenda

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1 CDR section editing comments—E.C. Aschenauer

1. Updates have been received, submitted, and integrated into the CDR.
2. E.C. Aschenauer will send out the PDF after meeting.

- (a) [CDR Proof timeline.pdf](#): “CDR Proof-Reading timeline”.
- (b) [EIC_CD_ch3_2.pdf](#): *EIC CDR V01* (August 7, 2020), Chapter 3 EIC Design, Section 1 Interaction Region Design.

2 Hadron lattice matching into IR—H. Lovelace

Title: “Hadron Storage Ring”

File: [hsr_pres_20200807.pdf](#)

1. HSR circumference has increased around 2 cm to 4 cm to 3833.856 820 m [slide 3].
2. Chromaticity has decreased.
3. Outer FODO cell phase advanced decreased [slide 5].
4. Need a flexible β^* at 12 o'clock IR [slide 8].
5. 6 o'clock IR vertical phase advance ϕ_b decreased from ~ 16 rad to 8.3730 rad [slide 9].
6. Effects of 3 T detector solenoid on β functions can be compensated by global coupling scheme [slide 13].
7. Summary [slide 19]
 - (a) With a new IR, the hadron storage ring vertical tune has reduced by 2 integers
 - (b) The arc quadrupole currents below the 5.5 kA threshold of the main bus
 - (c) To Do

- i. DA studies need to be done
 - ii. Radial shift lattices need to be created
8. W. Christie: Would a lower detector solenoid field (e.g. 2 T) effect the matching?
 - (a) No, it would make the matching easier, though there would be a vertical kick at low energies.

3 All other business

None.

4 Draft agenda for Friday, August 14, 2020 from 2:30 to 3:30 p.m.

1. CDR section updates—E.C. Aschenauer
2. All other business

Contact H. Witte or W. Christie to be added to the agenda.