

eRHIC IR Design Meeting

Draft Minutes for Friday, September 20, 2019

Present: Holger Witte (Chair), Alexei Blednykh, Kyle G. Capobianco-Hogan, Alexander Kiselev, Hendy Lovelace, Alexander “Sasha” Novokhatski, Robert “Bob” Palmer, Michael Sullivan, Steven Tepikian

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1 Henry

1. 10 mm discrepancy in s coordinate for DH8 element between Bmad and MAD-X matches.
2. Holger: Seems okay.

2 Mike S.: Update on Synchrotron Radiation

Title: “SR Update after the MDI workshop of Sep. 26-27”

File: [SR Update after the MDI workshop.pptx](#)

1. Water around beam pipe would be in a 1.5 mm thick water jacket between two beryllium layers [slide 11].
2. Alexander K.: Do hit rates account for variation in bunch rates and counts?
 - (a) Is per bunch. Can convert to rates using parameter tables.
3. Bill: Can Alexander K. simulate the x-rays going through the detectors?
 - (a) Mike S. and Alexander K. will exchange design information necessary for simulations.
4. Bob: What would the power from synchrotron radiation be?
 - (a) Order mW.

3 Bob

Title: “After Mike’s visit”

File: [1910-work-v1.pdf](#)

1. Could Steve move B1eF upstream to make room for crab cavity [slide 10]?
 - (a) Steve will try to move it back 7 m.

4 Holger: Review of Holger’s Presentation for the Upcoming EIC Collaboration Meeting

Title: “eRHIC IR”

File: [2019-10_EICMeetingChicago.pptx](#)

Note: The file has been updated since the meeting.

1. Bill: Change “eRHIC” to “EIC at BNL” [slide 1].
 - (a) Will have to change on other slides as well.
 2. Alexander K.: Is “No bending upstream for leptons. . .” [slide 4] correct?
 - (a) Was the desire, but no.
 3. Alexander K.: 1.3 GeV/c perpendicular momentum acceptance doesn’t hold for all energies [slide 5].
 4. Bob: Mark IP [slide 8].
 5. Brett: Note that the two fields in the plot [slide 10] match.
 6. Add note that margin is more than needed [slide 11].
 7. Henry: Could wall or beam pipe be added to plot [slide 12]?
 8. Bob: Label yellow region (neutron cone) [slide 13].
 9. Alexander K.: I_1 and I_2 look like a coordinate system [slide 16].
 10. Refer to as quadrupole component instead of b_2 [slide 17].
 11. Add line about higher order modes being under discussion [slide 19].
 12. Reword “All radiation has to be passed. . .”
 13. Alexander K.: Green in two plots in top left can’t be right, is being worked on [slide 21].
 14. Alexander K.: Replace “Tremendous” [slide 22] with something else.
- 5 Next Meeting:** Friday, October 18, 2019 from 2:30 to “3:30” p.m.

5.1 Draft Agenda

1. Alex J.: Update on Physics Simulations
2. Holger: Summary of EIC Collaboration Meeting
3. Steve: Update on Crab Cavity Position
4. Henry, Holger, and Guillaume: Update on Hadron Matching
5. All Other Business