

eRHIC IR Design Meeting

Draft Minutes for Friday, January 24, 2020

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1 Physics simulation update—Friends from Physics

1. Postponed till next week (see section 5, item 1).

2 Update on eR lattice—J.S. Berg

1. Has made some improvements, but is still working on the design.
2. Will present at future meeting with slides (see section 6, item 1).

3 Transverse electron tails—C. Montag

Title: “Simulation of Transverse Electron Beam Tails”

File: [electron-tails-23Jan2020.pdf](#)

1. Presented at yesterday’s SR meeting.
2. The presentation is available on the eRHIC IR SharePoint page’s Documents section in the [SR-meeting/2020/2020-01-23](#) directory (direct link to file above).

4 Impedance Optimization for EIC—A. Blednykh

1. Reviewed draft slides for a talk A. Blednykh will be giving in Japan.
2. All simulations shown in presentation were done using 660 bunches and a bunch length of 12 mm for the electron ring.
 - (a) 660 bunches is from the first version of the pCDR while the current value (from the second version of the pCDR) is 550 bunches.

- (b) 12 mm is a potential value for one of the bunch lengths used in the EIC; it is not an official reference value.

3. Comparison between EIC, SuperKEKB, PEP-II

4. Vacuum chamber profile

- (a) Octagonal vs. circular profiles for transitions between arcs and straight sections.
- (b) F. Willeke: Could also consider rectangular and elliptical profiles.
- (c) “Circular” profile will cancel quadrupole impedance.
- (d) Wants feedback on what might be the best option.

5. Lengthening bunches could reduce the extent of the impedance issues.

- (a) W. Christie: Would such a change be on the table?
 - i. A. Kiselev: Lengthening electron bunches is not desirable from an experimental standpoint.

5 Draft agenda for Friday, January 31, 2020 from 2:30 to 3:30 p.m.

1. Physics simulation update—Friends from Physics

- (a) Lumi. monitor update—J. Adam

2. [Tentative] Detector yellow book related activities—E. Aschenauer and/or A. Kiselev

3. All other business

6 Draft agenda for Friday, February 7, 2020 from 2:30 to 3:30 p.m.

1. eR lattice update—J.S. Berg

2. All other business