

eRHIC IR Design Meeting

Draft Minutes for Friday, November 22, 2019

1 Updates—Holger

Title: “Updates”

File: [2019-11-23_IRMeeting.pdf](#)

1. Use official RHIC coordinate system [slide 2].
2. Crab Cavity Location [slide 3–8]
 - (a) Had meeting Tuesday, November 19, 2019 [slide 3]
 - i. Two solutions:
 - A. swap eF crab cavity with B6eF
 - B. reduce lateral size of crab cavity
 - (b) Alex J.: The ~ 6 mrad tail of neutron cone ($\sim 10\%$ as many neutrons in tail between 4 mrad and ~ 6 mrad as inside the 4 mrad cone) will still hit crab cavity.
 - (c) In [slides 6–7]: The IP is located at $s = 0$ m and the matching point is located at $s \sim 95$ m.
 - (d) Christoph: Why is eF crab cavity 9 m long?
 - (e) Ferdinand: Wait until we have a crab cavity design before considering moving crab cavity.
 - (f) Alex J.: Old design had crab cavity inside 4 mrad neutron cone.
 - (g) Brett: There may be an error in the geometry of the lattice file that was given to Alex J. as only 4 mrad neutron cone should have been able to make it through the magnet apertures (i.e. the ~ 6 mrad tail shouldn't have made it through the apertures).
 - (h) See also section 2.
3. SynRad Meeting
 - (a) Thursdays, 3:30–4:30 p.m.
 - (b) First meeting on Thursday, December 5, 2019.

2 Crab cavity location—Bob Palmer and Steve Tepikian

Title: “1911-work-v3”

Subtitle: “Electron lattice options”

File: [1911-work-v3.pdf](#)

1. Skipping to Version (g) [slide 6] after discussion of crab cavity placement in section 1, item 2.
2. Alexei: Need to look into apertures.
3. Ferdinand: Version (g) is a another possible solution to look into.
4. Brett: Synchrotron radiation from B6eF (in current design, Version (b) [slide 3]) could be an issue for superconducting inner eF magnets.
5. Ferdinand: Revisit crab cavity placement when we have a conceptual design for it and leave the lattice unchanged for now.

3 Next Meeting: Friday, December 6, 2019 from 2:30 to “3:30” p.m.

3.1 Draft Agenda

1. First look at vacuum chamber design
2. All other business