

EIC IR Design Meeting

Draft Minutes for Friday, June 26, 2020

Agenda

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1 Vacuum system/collimation—A. Blednykh

1. Beam-induced heating loss of $P_{loss} = 238$ W for the whole IR, not per meter.
2. C. Hetzel: We need to define the stay clear diameter of the beam. The 13.5σ x -tails (tail factor in x of 3.2) reach a radius of 113 mm (without adding orbit errors) in the electron forward section.
3. F. Willeke: Estimating from the shape of the envelope, the photons would be hitting the beam pipe in the detector region.
4. Resume meeting with IP Physicists on a monthly basis (E.C. Aschenauer, A. Kiselev, H. Witte, C. Hetzel, M. Blaskiewicz, et al.)
5. F. Willeke: Need 10σ radius for good beam lifetime without accounting for tails. Need to get the assessment of the tails from M.K. Sullivan.
6. C. Montag: Fortunately, the beam-beam tails tend to build up in the vertical, where we have more clearance because of beam flatness.
7. C. Hetzel: The SR shielding won't be effective if we grow the beam pipe in x .
8. Tapered collimator performance is better than ramp and cavity in simulations.
9. A. Drees: Need to be able to move the collimator to accommodate different beam parameters and scenarios.
10. C. Hetzel: Flange masks [slide 15] would be more for non-experimental straight sections.
11. Concluding Remarks [slide 16]
12. H. Witte will organize a meeting for next week to sort out beam and tail size in IR region.
13. Need to get the concept of the vacuum system fixed so that we can move forward with the design of the vacuum chambers.

2 Update on B0 integration—B. Parker

Title: “B0PF First Look and Open Issues”

File: [B0PF_26jun2020_FirstLook.pptx](#)

1. Access to anything inside the coil will be difficult.

3 All other business

None.

4 Draft agenda for Friday, July 10, 2020 from 2:30 to 3:30 p.m.

1. Summary of beam envelope discussion—C. Hetzel
2. All other business

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