

eRHIC IR Design Meeting

Minutes for Friday, June 28, 2019

Present: Holger Witte (Chair), Elke Aschenauer, Alexei Blednykh, Mike Blaskiewicz, Kyle G. Capobianco-Hogan, Bill Christie, Alexander Kiselev, Gary McIntyre, Christoph Montag, Bob Palmer, Brett Parker, Vadim Ptitsyn, Guillaume Robert-Demolaize, Mike Sullivan (BlueJeans), Steven Tepikian, Ferdinand Willeke, Qiong Wu

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1 Presentation by Stephen on his Electron Matching study

1. Will present at next meeting (and upload slides earlier in the week if finished early).

2 pCDR Status update

1. Holger: Submitted updates to Joanne and will meet with Elke after this meeting to discuss last minute changes.

3 AOB

3.1 *Guillaume*

3.1.1 *IR6 Wall Geometry* —

File: [IR6-geom-Wall.png](#)

1. Hadrons going left to right.
2. Transverse size of boxes are arbitrary (full widths/diameters: dipoles 50 cm, quads 1 m).
3. Offset: $\Delta x = -81$ cm

4. Rotation: $\theta_{\text{hadron}} = 17 \text{ mrad}$, $\theta_{\text{electron}} = -8 \text{ mrad}$
5. Guillaume will update figure with correct IR dimensions.

3.1.2 Magnet Parameters —

File: [MagnetsParameters.PNG](#)

1. All magnets shown are new.
2. Fields and gradients are for 275 GeV proton beam.
3. Holger: Gradients look high. He got max forward gradient of $\sim 100 \text{ T/m}$ and max rear gradient of $\sim 75 \text{ T/m}$ in his matching solution. He and Guillaume will need to compare their results.
 - (a) Guillaume: May have forgotten to divide by length, but this may only account for part of discrepancy.
4. Elke: Can we get all of this into Doug's plot/diagram?

3.2 Alexei

File: [eRHIC_imped.pdf](#)

1. Need to optimize IR vacuum chamber design.

4 Next Meeting: July 12, 2019, 2:30–“3:30” p.m.

4.1 Draft Agenda

1. Update from Steve.
2. Presentation by Holger on path to CD1 design.
 - (a) **Note:** Please submit topics that need to be addressed and timelines for them (including man-hours required) to Holger in advance of the *July 10, 2019* deadline for Holger to submit what we need to do for the CDR.