

# eRHIC IR Design Meeting

Draft Minutes for Friday, January 10, 2019

## Agenda

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<b>2 Update on lumi. monitor—J. Adam</b>	<b>1</b>
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### 1 Update on cryostats—S. Plate

Title: “B1pF & B1ApF Doublet”

File: [B1pF & B1ApF Doublet with beam tube.pptx](#)

1. Plan to combine B1pF and B1ApF into a single cold mass (wired with a superconducting bus).
2. Is the 267 mm transition region from 282 mm to 350 mm ID viable for the beam physics?
3. F. Willeke: Will need to start writing requirement documents.

### 2 Update on lumi. monitor—J. Adam

Title: “Update on photon exit window for luminosity monitor”

File: [JA-Lumi\\_20200110.pdf](#)

1. Now looking at curved exit window, but haven’t implemented water cooling yet [slide 2].
2. Binning width is now determined dynamically rather than set as a fixed value to keep binomial errors below 1 % [slide 3].
3. F. Willeke: If the lumi. monitor window cracks, the cooling water behind it will get into the vacuum.

- (a) E. Aschenauer: We don’t have a technical design yet for the window.

### 3 Update on SynRad simulations—C. Hetzel

Title: “Update on photon exit window for luminosity monitor”

File: [IR meeting - Vacuum 1-10-20.pptx](#)

1. Results based on e lattice version 5.2 (the current “unstable” e lattice version).
2. Syn. rad. power deposition shown at rear end of detector, after the end of the beryllium section of beam pipe.
3. Syn. rad. power from the first quad shown differs significantly from the values from the sanity check estimates because the majority of the energy is deposited upstream [slides 2, 5].

### 4 IR Matches—J.S. Berg

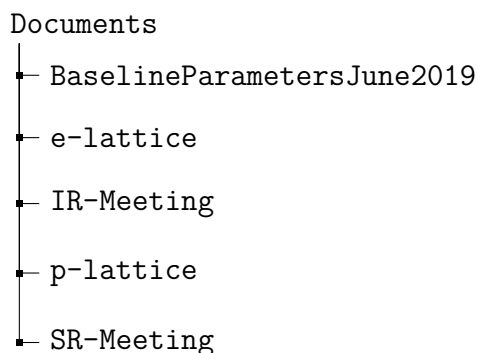
Title: “IR Matches”

File: [JSBerg-200110-01.pdf](#)

1. Match point is halfway through a quad, with different gradients on either side; could use a better match point [slide 4].
2. Will try to get constant dispersion in crab cavity moving forward.

### 5 Update on directory structure—E. Aschenauer and H. Witte

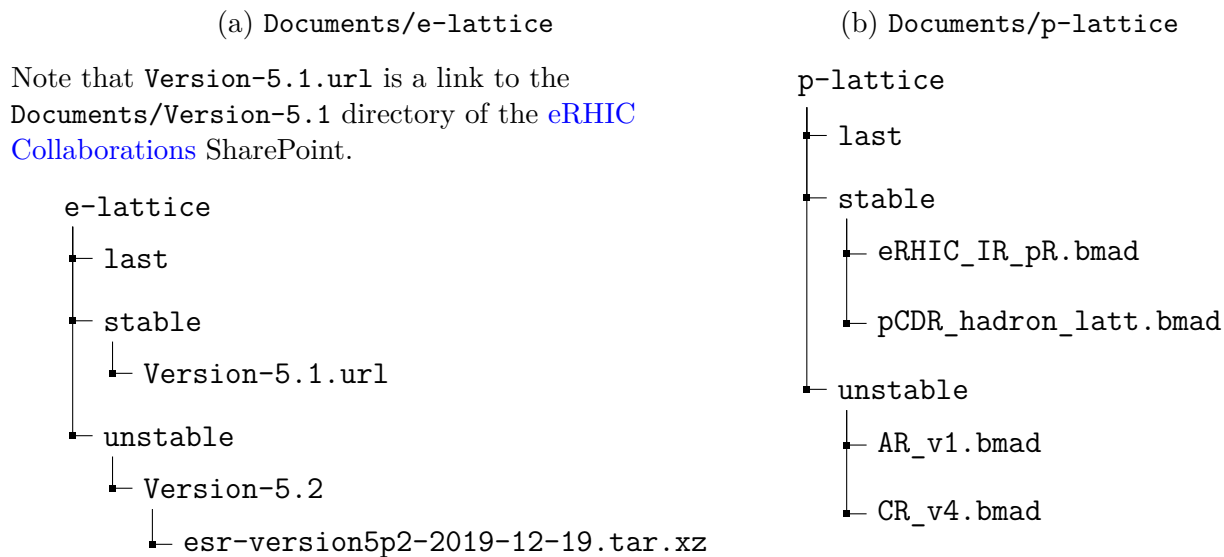
Figure 1: [eRHIC IR Documents](#) directory structure.



1. “unstable” refers to the the version under active development, it does not mean that the lattice itself is unstable.

### 6 Next Meeting: Friday, January 17, 2020 from 2:30 to “3:30” p.m.

Figure 2: The directory structure of eRHIC IR's lattice subdirectories.



### 6.1 Draft Agenda

1. Path forward—F. Willeke
2. SynRad simulations for Scott's (J.S. Berg's) January (2020) lattice—C. Hetzel
3. Near term focus—H. Witte
4. All other business
5. Next meeting: Friday, January 24, 2020 from 2:30 to 3:30 p.m.

(a) Draft Agenda