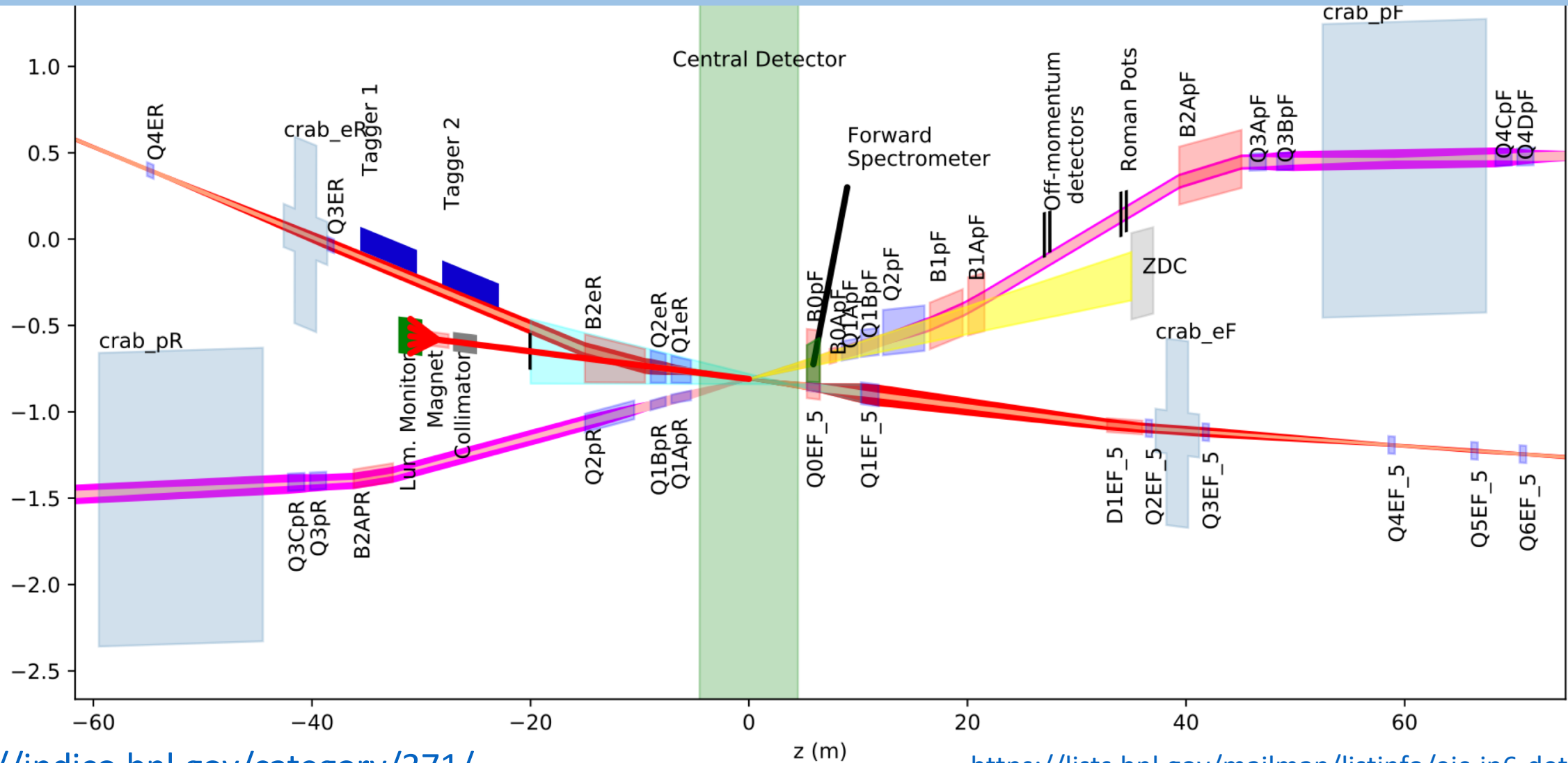


FarBackward Working Group:

Luminosity measurement and low- Q^2 tagging in ATHENA



FarBackward WG: getting organized/updates

Open list of participants in various areas of the Far-Backward proposal

Integration with the EIC – J. Adam (BNL): presentation by Charlie Hetzel <https://indico.bnl.gov/event/12026/>, followed by very fruitful discussions and by G4 exit window results from Jarda <https://indico.bnl.gov/event/12137/>

Electronics – Marek Idzik (AGH)

FarBackward system integration/technical coordination – Leszek Hajduk (IFJ)

Dipole magnet – NN (BNL), TBD

Spectrometer detectors – NN (BNL), TBD

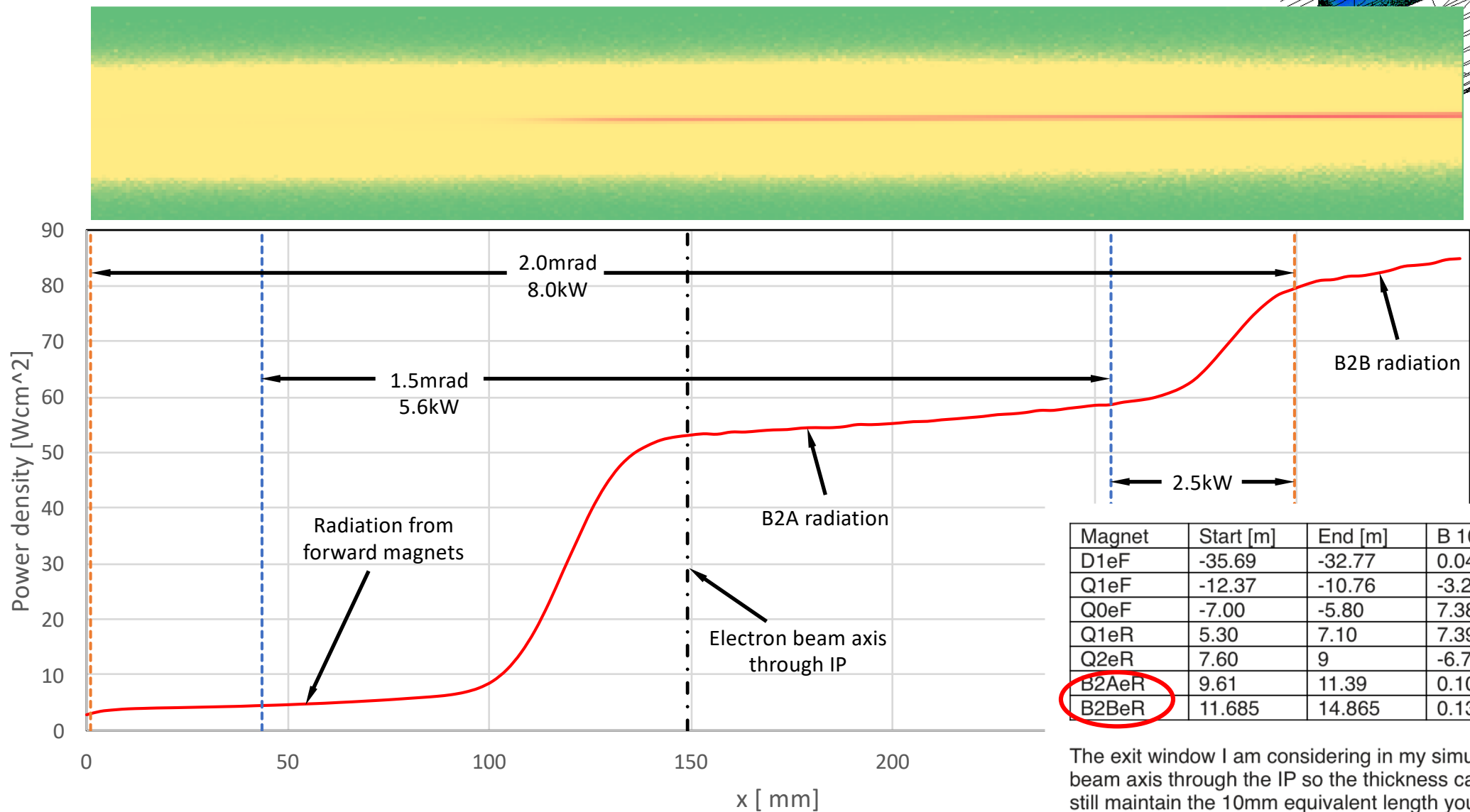
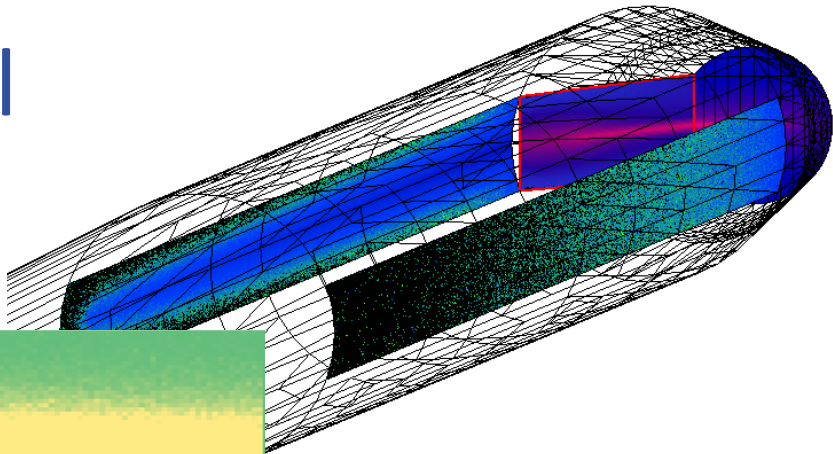
Photon calorimeter – K. Piotrkowski (AGH)

Tagging – Bill Schmidke (BNL) and K. Piotrkowski (AGH): Bill presented 1st considerations regarding event pileup in FB taggers

Online data flow & processing – J. Adam (BNL) and K. Piotrkowski (AGH)

Software – J. Adam (BNL), Janusz Chwastowski (IFJ) and M. Przybycien (AGH): “Preparing a (‘very fast simulation’) framework for evaluation of the expected luminosity errors, as well as the tagging performance, **for different running scenarios and as a function of detector parameters and configurations**”

Power on Exit Window (10GeV) – Ch. Hetzel



1st design iteration made, and a lot of room for improvement

Magnet	Start [m]	End [m]	B 10Gev [T or T/m]	B 18Gev [T or T/m]
D1eF	-35.69	-32.77	0.04214	0.07585
Q1eF	-12.37	-10.76	-3.24387	-5.85089
Q0eF	-7.00	-5.80	7.3846	13.1289
Q1eR	5.30	7.10	7.39198	13.3153
Q2eR	7.60	9	-6.73288	-12.0595
B2AeR	9.61	11.39	0.105	0.192
B2BeR	11.685	14.865	0.132	0.238

The exit window I am considering in my simulation is tilted at 250mrad to the electron beam axis through the IP so the thickness can be increased from 1mm to 2.6mm and still maintain the 10mm equivalent length you have been using.

FarBackward WG: next steps

Direct synchrotron radiation levels in *FarBackward* region is the major “defining” condition to properly start designing the FB detector systems – we are on a good track to arrive to an **optimal** EIC beamline/exit window design, in that respect **splitting the B2eR dipole into two parts** is a huge step in this direction!

On June 16th we will hold a FB WG meeting where the outline of the Far-Backward luminosity detectors will be discussed and a very first workplan towards the FarBackward proposal presented

On June 18th a presentation on the photoproduction taggers (= far backward electron detectors) at the *Exclusive Physics* WG is planned

On June 23rd we plan a discussion on (very) fast vs. full simulation needs and workplan and a follow-up of the preceding week discussions

In two weeks will be ready to present a very first menu of detector technologies for Far-Backward detectors