Updates

- Lab and R&D proposals — Nikki,
- EIC Software Tutorial: Reconstruction algorithms in JANA2: from geant4 to reconstructed quantities — Shujie,
- Upcoming general simulation campaign — All,
- Long Range Plan - QCD Townhall meeting last week - All,
- AOB

Simulation Campaign

Tentative development/production timeline

- **09/16/2022** Convener meeting, discuss simulation campaign goals and requirements
- **09/20/2022 (today)** General meeting, present simulation campaign goals and requirements
- **…** Implementation
- **10/03/2022** Feature freeze for simulation and reconstruction software
  … Test production chain, fix & patch software where needed
- **10/17/2022** Official start of production
  … Production

Nominally (TBD): expect 2 major configurations of the entire detector that see all physics events + targeted variations that see a more restricted set of simulations

Slide courtesy Sylvester Joosten, https://indico.bnl.gov/event/16028/

Timeline confirmed by Joe Osborne at Monday's GD/I meeting, c.f. https://indico.bnl.gov/event/17295/

Verbally, Wouter Deconinck indicated that 3 months is a reasonable and achievable timeline for any subsequent simulation campaign(s).

That is, the time is "now" for any revisiting of the overall geometry and for inclusion of algorithms.

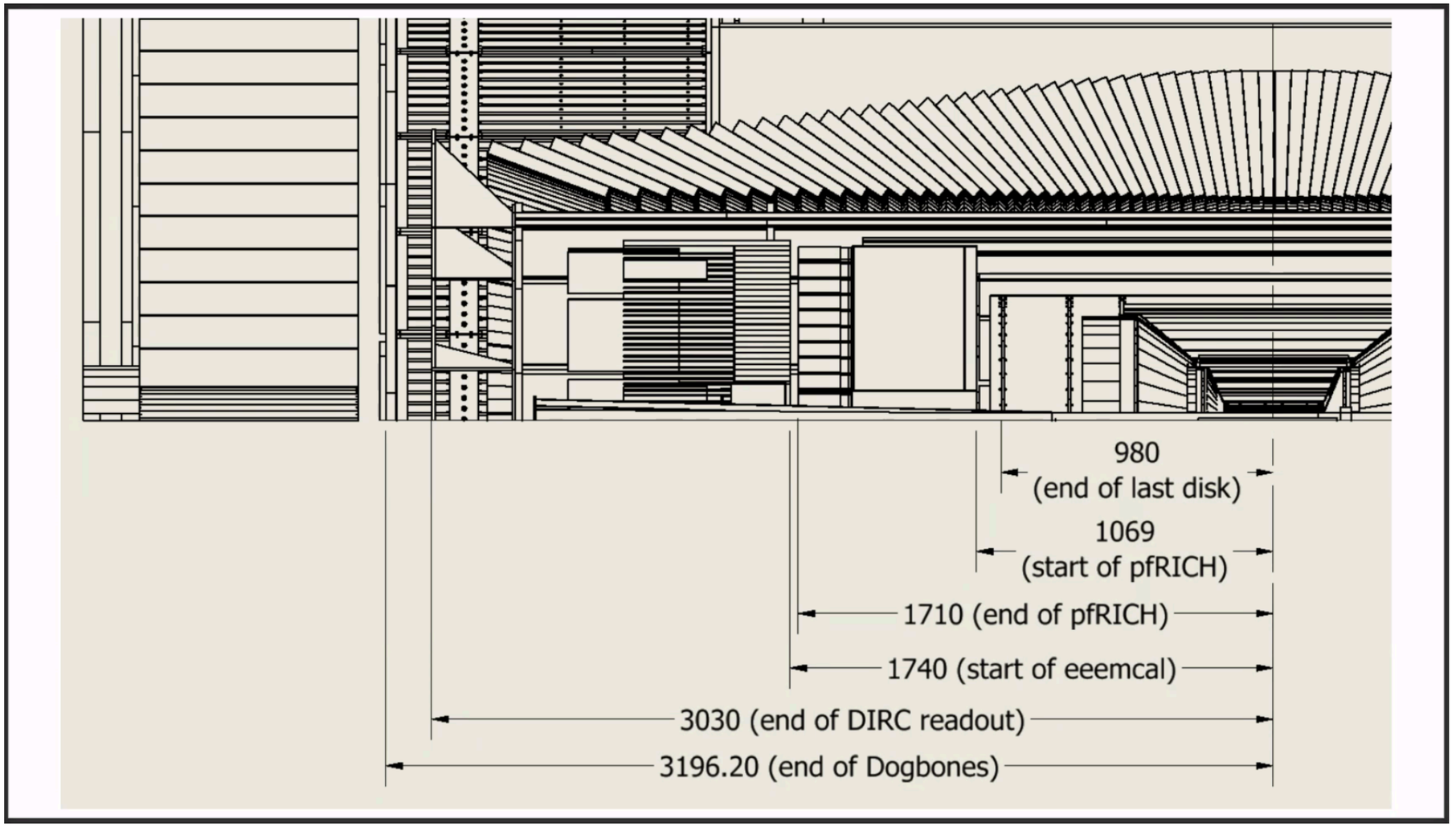
Simulation Campaign

detector region	option A	option B	notes
all	"standard" Si tracker system (layers: 5 in barrel; 5 disks in FW; 5 disks in BW)		if possible, converge towards 1 single configuration with 1 single envelop
barrel	2 MPGD layers (1 behind DIRC; first layer at 55 cm)	1 MPGD layer (in front of the DIRC)	option B more consistent with imaging Ecal
FW	no MPGD behind the RICH		
barrel	"standard" DIRC		
FW	"standard" dRICH		not realistic to elaboirate two different optics by mid October
BW	mRICH	pfRICH	pfRICH shorter than in ATHENA: ~45 cm in total
FW/BW	standard Ecal and Hcal	standard & insert in the BW Ecal	status of implementation in gloal simulation: advanced; about inseret, to be used in October simulation if a preliminary mechanical support will be designed
barrel	SciGlass Ecal	imaging Ecal (same inner radius, 21 X0)	thicker imaging Ecal if supported by preliminary srudies
barrel	HCAL outside	HCAL outside	implementation in progress
BW	ToF layer (10 cm; 8% X0; pixel 0.5*0.5 mm^2)	no	BW ToF layer simulated if intregration in the the detector layout possible (second priority)
FW	ToF layer (15 cm; 8% X0; pixel 0.5*0.5 mm^2)		X0 correlated to resolution
barrel	ToF layer (1 % X0; strips)		X0 correlated to resolution
FFW/FBW	"standard"		implementation advanced; some open points in B0; ZDC is the "ATHENA" one;
	1.7 T scaled from BaBar magnet		

Silvia Dalla Torre at the recent GD/I WG meeting, c.f. https://indico.bnl.gov/event/17295/

That is, the time is “now” for any revisiting of the overall geometry and for inclusion of algorithms.

Simulation Campaign



Elke Aschenauer in-promtu at GD/I WG meeting, c.f. https://indico.bnl.gov/event/16028/

That is, the time is “now” for any revisiting of the overall geometry and for inclusion of algorithms,

“Standard” Si Tracker is (fortunately) *not* the reference, but we do have a bit of work to do to stay within the updated envelopes.