



ATHENA

A Totally Hermetic Electron-Nucleus Apparatus

Bi-Weekly Meeting

July 22nd, 2021

Franck SABATIE

for

Silvia Dalla Torre, Abhay Deshpande, Olga Evdokimov, Yulia Furletova, Barbara Jacak, Alexander Kiselev, Bernd Surrow



Agenda for today

ATHENA news

Orateurs: Franck Sabatié (CEA Saclay)

🕒 10m

ATHENA Proposal Committee: Costing Subgroup

Orateurs: Bernd Surrow (Temple University), Olga Evdokimov (UIC), Yulia Furetova (Jefferson Lab), Zhangbu Xu (BNL)

🕒 5m

ATHENA Proposal Committee: Integration & Global design Subgroup

Orateurs: Alexander Kiselev (BNL), Bedangadas Mohanty, Franck Sabatié (CEA Saclay), Silvia Dalla Torre (INFN, Trieste), Thomas Ullrich (BNL)

🕒 5m

ATHENA Proposal Committee: Editing Subgroup

Orateurs: Abhay Deshpande (Stony Brook University), Barbara Jacak (UC Berkeley and LBNL), Peter Jones (University of Birmingham), Zein-Eddine Meziani (Argonne National Laboratory)

🕒 5m

ATHENA elections 🗳

Election committee will talk about upcoming IB chair and spokesperson election organization and timeline.

Orateurs: Brian Page (Brookhaven National Laboratory), John Arrington (Lawrence Berkeley National Laboratory), Nicole d'Hose (CEA- Université Paris-Saclay), Pietro Antoniolli (INFN - sezione di Bologna), Sylvester Joosten (Argonne National Laboratory), Yulia Furetova (Jefferson Lab)

🕒 15m

Topical discussion - Tracking WG

Orateurs: Domenico Elia (INFN Bari), Francesco Bossu (CEA-Saclay), Laura Gonella (University of Birmingham), Matt Posik (Temple University)

🕒 1h

ATHENA Software - Status update & focus on tracking

Orateurs: Andrea Bressan, Dmitry Romanov (Jefferson lab), Sylvester Joosten (Argonne National Laboratory), Whitney Armstrong (Argonne National Laboratory), Wouter Deconinck

🕒 20m

Report : exclusive/tagging WG

Orateurs: Daria Sokhan, Salvatore Fazio (University of Calabria and INFN-Cosenza), Spencer Klein (LBNL)

🕒 15m

Report : Jets/HF/EW-BSM WG

Orateurs: Brian Page (Brookhaven National Laboratory), Ernst Sichtermann (Lawrence Berkeley National Laboratory), Miguel Arratia (University of California, Riverside), Stephen Sekula (SMU)

🕒 15m

Report : Semi-inclusive WG

Orateurs: Anselm Vossen (Duke University), Marco Radici (INFN - Sezione di Pavia)

🕒 15m

Report : Inclusive WG

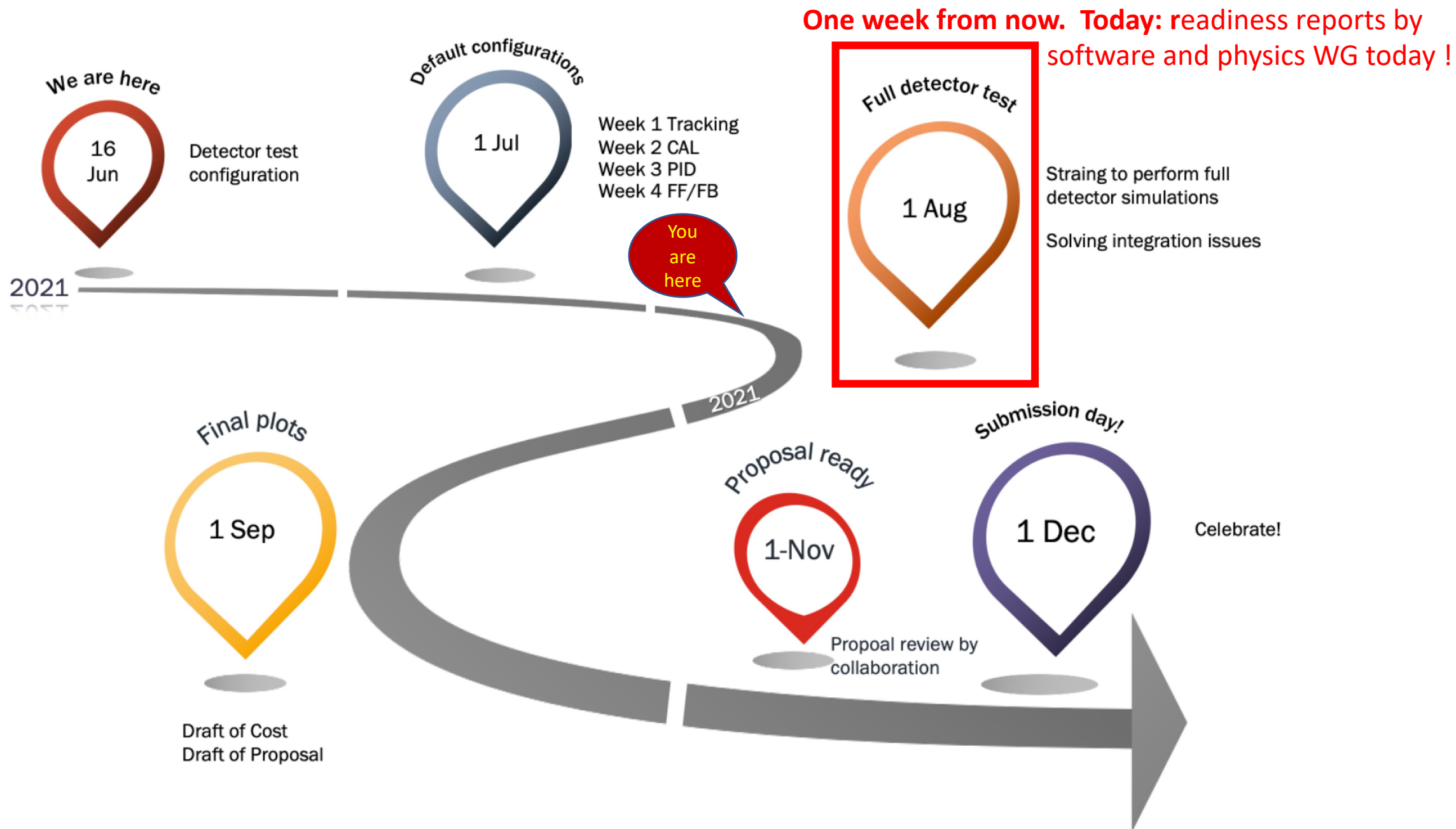
Orateurs: Barak Schmookler (Stony Brook University), Paul Newman (University of Birmingham, UK), Qinghua Xu (SDU)

🕒 15m

News,
Proposal committee subgroup updates
ATHENA upcoming elections

Tracking topical discussion
ATHENA Software update

Physics WG reports



In view of this timeline

- **Software readiness check**
 - Status of detector implementation in software + reconstruction
 - Issues with tracking solved? PID ready?
 - Will be able to do full simulations by 1st week of August?
- **Physics readiness check**
 - Golden channels identified? Money plots identified? Beam effects studies done?
 - Ready to perform simulations?
- Today is the first of the focused topical discussions : **Tracking**
- Next monthly meeting was moved from August 5th to August 12th (because of EICUG meeting)
- Next bi-weekly meeting the week after ... August 19th. **Topical discussion on PID.**

Topical discussion Tracking – Questions to WG

- 1) What is the full material budget for the all-silicon tracker, both in the barrel and also in each endcap? For the hybrid tracker? How realistic is their description in the full simulation so far?
- 2) What is the resolution in p and p_T as a function of y ?
- 3) How wide is the dead area in y arising from mechanical supports, rails, and cable connectors?
- 4) How does tracking work near the interface between barrel and disks?
- 5) How is the disk placement and number optimized?
- 6) What is the collision vertex resolution?
- 7) Should the tracker be centered around the collision vertex, or should it be offset to give more room and Bdl for high momentum particles in the hadron going direction?
- 8) What are the plans to test tracking resolutions in PYTHIA events + synchrotron background? Who are the people responsible for this?
- 9) What are the plans for testing track finding in the presence of background? What is the occupancy including noise and synchrotron radiation load?
- 10) For the hybrid tracker, how many MPGD layers are needed? Where do they go? What is full material budget (including active + services and supports)?



EIC Users Group Meeting August 2-6, 2021

Co-Organized by: Virginia Union University & UC Riverside

<https://indico.bnl.gov/event/11463>

- **Day 1**
 - EICUG Welcome
 - EIC project status
 - High level physics presentations: Spin, Mass, High density gluons
 - Presentations from funding agencies
- **Following Days**
 - EIC detector design updates
 - EIC detector proposal initiatives:
 - ATHENA proposal overview (**Silvia**)
 - Subsystem presentations for each of the 3 proposals: **we need names (conveners) !**
 - Physics session
 - Announcements on EICUG Elections status and changes to EICUG leadership

Sean Preins has setup a Redbubble store

<https://www.redbubble.com/shop/ap/81718118>



Get your ATHENA T-Shirt !

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Thank you !