ATHENA Proposal Committee: Integration & Global design Subgroup NEWS

Silvia Dalla Torre, Alexander Kiselev, Bedanga Mohanty, Franck Sabatie, Thomas Ullrich

Proposal Committee: Integration & Global design

Activity summary

meetings

- **18 June, attendance: only the subgroup members**

- **25 June, the Tracking, PID and Calorimeter WG conveners invited**

- **2 July, the Tracking, PID and Calorimeter WG conveners invited**

- **7 July, the Tracking, PID, Calorimeter, far-forward and far-backward WG conveners invited**

- **NEXT meeting: 14 July**

- **INDICO page: https://indico.bnl.gov/category/378/**

We started with weekly meetings on Friday, then we moved to Wednesday

➔ **Our (now) regular meeting time: Wednesday at 11.00 (EDT)**

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Activity strategy

- **define a <u>limited</u> number of global detector configurations**
    - **Configuration defined with the help of the DWG conveners**
- **have the configurations <u>implemented in the simulation</u> in the DD4hep frame**
    - **Activity shared between the Software working group and the DWs**
- **configurations used by the WGs with the following goals:**
    - **DWGs check the detector performance using complete and realistic (= material and services) configurations**
    - **PWGs check if and at which extent the configurations match the requirements for physics**
- **this validation activity requires coordination and a reference colleague who keeps track of the validation exercises and the relative outcome:**

- **<u>B.</u> Mohanty has kindly agreed to serve as VALIDATION COORDINATOR**

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A flavour about our meetings

e.g., the agenda of the 7 July meeting

- **progress of the implementation of the minimal detector version in the global simulation in DD4hep**
- **populating the wiki site with information about detector configuration**
- **understanding the need of help from the project engineers and corresponding requests**
- **definition of a set of configurations beyond the minimal one, initial discussion**
- **appointing the validation responsible**

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About detector configurations

New Configuration Labels: B, P, N

- Need unambiguous ID of specific configuration.
- Label according to their coverage (using existing letters from software group)
  - B = Barrel
  - P = forward, Positive endcap
  - N = backward, Negative endcap
- Followed by a two-digit version number M.N
  - M defines specific subsystem composition (change if subsystem add or remove)
  - N labels the geometry(e.g. pixel size, thickness, service material etc) are changed within a given overall configuration M.
- If needed the software group can add a 3rd number (M.N.V) for software version or the like - up to them
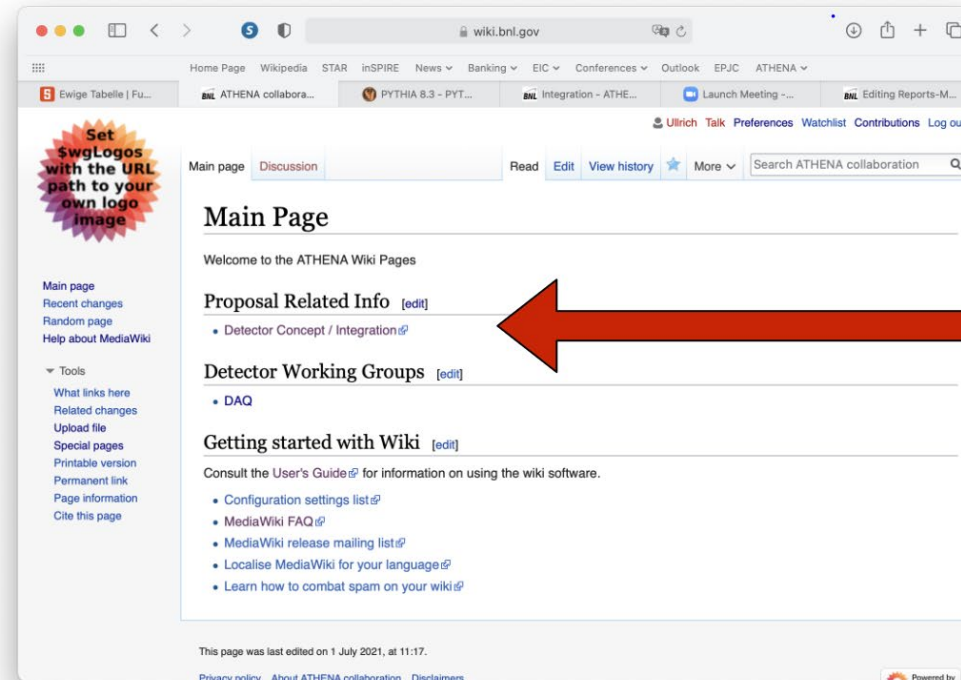
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About detector configurations, documentation

ATHENA Wiki

- https://wiki.bnl.gov/athena
- Access rights: Ask Maxim for group (DWG convener) logins

This effort

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Navigating in the ATHENA wiki

Integration

Welcome to the Wiki page of the Detector Concept/Integration Committee.

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1 Committee
2 Current Configurations
3 Subsystem Spec Sheets (DWG)
4 Validation Results (PWG)

Committee [edit]

Members of the Committee are:

- Silvia Dalla Torre (INFN Trieste, Italy): Silvia.DallaTorre@ts.infn.it (contact person)
- Alexander Kiselev (BNL, USA): ayk@bnl.gov
- Franck Sabatie (Saclay, France): Franck.Sabatie@cea.fr
- Bedangadas Mohanty (NISER, India): bedanga@niser.ac.in
- Thomas Ullrich (BNL, USA): thomas.ullrich@bnl.gov

Project Contact / Liaison: Elke Aschenauer (BNL): elke@bnl.gov

Current Configurations [edit]

Explanation of configuration labels can be found here⊠. The names associated with the exact labels are simply common short names to describe the configuration combination.

- Baseline⊠ (B-0.0, P-0.0, N-0.0)
- Baseline+⊠ (B-1.0, P-1.0, N-1.0)

Baseline Configuration

Contents [hide]

1 Field
2 Barrel B-0.0
3 Forward P-0.0
4 Backward N-0.0

Field [edit]

- Solenoidal

Barrel B-0.0 [edit]

- All-Silicon Tracker (no MPGD)
- HP-DIRC
- EMCAL
- HCAL (Fe/Sc)

Forward P-0.0 [edit]

- Si-Disks
- GEM/MMG Layer
- dRICH
- EMCAL (W powder/ScFi)
- HCAL (Fe/Sc)
- B0
- Off-Momentum
- Roman Pots
- ZDC

Backward N-0.0 [edit]

- Si-Disks
- GEM/MMG Layer
- mRICH
- iEMCAL (PbWO4)
- oEMCAL (PbWO4*) – SciGlass possible if specs available?
- HCAL (Fe/Sc)
- Low-Q2 Tagger