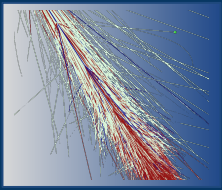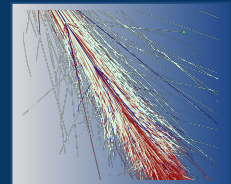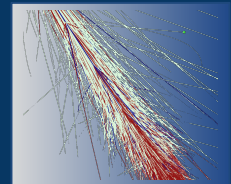# CORSIKA 8

Ralf Ulrich, 16.12.2021

- Welcome

- New contributors / collaborators

- Recent work

- Planning and next steps

- Organizational changes

Next meetings

All meeting agendas collected at: https://indico.scc.kit.edu/category/28/

- New meeting time: Thursday 17:00 ECT

- Next general phone call:
  - January 13th 17:00 ECT (4 weeks)

- Next topical phone calls (to be announced via corsika-devel list)

- Seminar by Remy at IAP: January 11th 11:00 ECT
  - "Picosecond Timing-Planes for Future Collider Detectors"
    https://indico.scc.kit.edu/event/2587/

Main project resources

- corsika-devel mailing list:
  https://www.lists.kit.edu/sympa/info/corsika-devel

  – Announcement of meetings, important news

- corsika.slack.com

  – Discussions

- Meeting schedules https://indico.scc.kit.edu/category/28/

- Software repository: https://gitlab.iap.kit.edu/AirShowerPhysics

  – Code, Wiki, Bus, Issues

Recent work

Resolve "fix Epos again (and QGSjet)"
!413 · created 5 days ago by Felix Riehn 🕐 Interaction interface overhaul. **Bug** **Hadronic** **Ready for Code Review**

Resolve "testHistoryView not covered in test"
!412 · created 1 week ago by Ralf Ulrich **Ready for Code Review** **Stack** **Testing**

Resolve "add time and space to hadronic interaction interface"
!410 · created 2 weeks ago by Ralf Ulrich 🕐 Interaction interface overhaul. **Code Review Finished** **Development** **Hadronic**

old ubuntu LTS system have very old cmake
!411 · created 2 weeks ago by Ralf Ulrich 🕐 Full physics demonstrator **Development**

remove unused file
!409 · created 2 weeks ago by Ralf Ulrich 🕐 First full release: CORSIKA 8.0.0 **Development**

run EPOS in CoM   8 of 8 tasks completed
!407 · created 3 weeks ago by Felix Riehn 🕐 Interaction interface overhaul. **Bug** **Code Review Finished** **Hadronic**
Ready for Code Review

Better docs
!406 · created 3 weeks ago by Ralf Ulrich 🕐 First full release: CORSIKA 8.0.0 **Documentation**

Hadronic model interface overhaul
!387 · created 2 months ago by Ralf Ulrich 🕐 Interaction interface overhaul. **Comments Requested** **Critical** **Development** **In Progress**
ProcessAndSequence **Ready for Code Review**

MERGED ✓ 👤✓ Approved 💬2
updated 6 days ago

MERGED ✓ 👤✓ Approved 📑20
updated 1 week ago

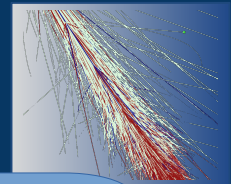MERGED ✓ 💬2
updated 2 weeks ago

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updated 2 weeks ago

MERGED ✓ 👤✓ Approved 👍1 💬1
updated 2 weeks ago

MERGED ✓ 💬0
updated 3 weeks ago

MERGED ✓ 👤✓ Approved 📑25
updated 3 weeks ago

Hadr. Interactions, Nuclei, EPOS

Build system

Ongoing work

Additional outputs ported to new architecture
!371 · created 6 months ago by Remy Prechelt 🕐 First full release: CORSIKA 8.0.0 `Critical` `Development` `Output` `Ready for Code Review`

adding Geomagnetic Models
!404 · created 1 month ago by André Schmidt 🕐 First full release: CORSIKA 8.0.0 `Media` `code review in progress`

⚠ ⚠ ◎ 💬27
updated 1 hour ago

Resolve "ExponentialRefractiveIndex assumes a flat environment"
!402 · created 1 month ago by Nikos Karastathis `Bug` `Radio` `Ready for Code Review`

✓ 👤 💬9
updated 1 hour ago

Add Box volume class
!408 · created 2 weeks ago by Fan Hu 🕐 Full physics demonstratror `Feature request` `Geometry` `Ready for Code Review`

🔵 🟢 👤✓ Approved 💬18
updated 1 hour ago

New get time method at any point of the track
!401 · created 1 month ago by Nikos Karastathis `Development` `Ready for Code Review` `Tracking`

⚠ 💬8
updated 6 days ago

WIP: Proposal v7.1.0
!396 · created 1 month ago by Jean-Marco Alameddine `EM`

⊗ ⚠ 🟣 💬7
updated 1 week ago

Draft: No Setup files dependency in tests
!405 · created 1 month ago by Nikos Karastathis `Bug` `Comments Requested` `Development`

⚠ ⚠ 💬4
updated 1 week ago

[WIP] Radio interface
!329 · created 9 months ago by Nikos Karastathis 🕐 Radio Emission `Discussion` `Feature request`

⊗ ⚠ 👤 💬7
updated 3 weeks ago

Forward our requirement for C++17 onto Conan (needed for Boost).
!400 · created 1 month ago by Remy Prechelt `Build System` `macOS`

⊗ 💬7
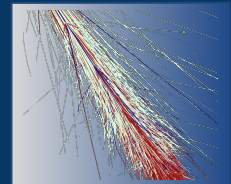updated 1 month ago

Basically finished

Important

Improve the CORSIKA 8 code formatting !

- Use the "**.clang-format**" file to modify formatting of code.

- The best suggestion wins a **Milka Chocolate "Nikolaus"**
  (I'll send it anywhere…)
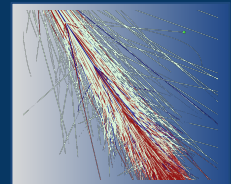
- We present and vote in our next general meeting

Clang-format hints

- Link to file in CORSIKA 8:

  – https://gitlab.iap.kit.edu/AirShowerPhysics/corsika/-/blob/master/.clang-format

- See also section "Code formatting" in CONTRIBUTING.md:

  – https://gitlab.iap.kit.edu/AirShowerPhysics/corsika/-/blob/master/CONTRIBUTING.md

- Attached to agenda

ONLINE ICRC 2021
THE ASTROPARTICLE PHYSICS CONFERENCE
Berlin | Germany

37th International
Cosmic Ray Conference
12–23 July 2021

CORSIKA 8

**Contributions to the 37th International Cosmic Ray Conference
in Berlin Germany (ICRC 2021)**

The CORSIKA 8 Collaboration

Full Authors List:

Jean-Marco Alameddine[b], Johannes Albrecht[b], Jaime Alvarez-Muniz[r], Antonio Augusto Alves Jr[d], Luisa Arrabito[a], Dominik Baack[b], Konrad Bernlöhr[c], Marcus Bleicher[o], Johan Bregeon[s], Mathieu Carrere[a], Hans Dembinski[b], Hannah Elfner[i], Dominik Elsässer[b], Ralph Engel[d], Hu Fan[p], Anatoli Fedynitch[j], Dieter Heck[d], Tim Huege[d,e], Karl-Heinz Kampert[k], Nikolaos Karastathis[d], Lukas Nellen[f], Maximilian Nöthe[b], David Parello[l], Tanguy Pierog[d], Maria Pokrandt[d], Anton Poctarev[d], Remy Prechelt[l], Maximilian Reininghaus[d,m], Wolfgang Rhode[b], Felix Riehn[h,r], Maximilian Sackel[b], Alexander Sandrock[u], Pranav Sampathkumar[a], Michael Schmelling[c], André Schmidt[d], Günter Sigl[n], Jan Soedingrekso[b], Bernhard Spaan[b], Donglian Xu[q], Juan Ammerman-Yebra[r] and Enrique Zas[r]

Contributions

KIT
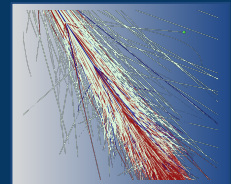
Transition to new project structure

- Preview on suggested steering committee

- Steering committee will start to host CORSIKA 8 meetings in February 2022

  - Tim Huege, project coordination
  - Tanguy Pierog, air shower physics coordination
    - Felix Riehn, deputy and expert
  - Dominik Baack, e.m. shower coordination
    - tbd, deputy and expert
  - Remy Prechelt, software development coordination
    - Max Reininghaus, deputy and expert
  - Lukas Nellen, package/container/testing coordination
    - tbd, deputy and expert