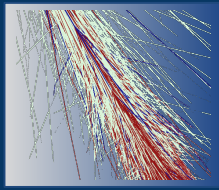
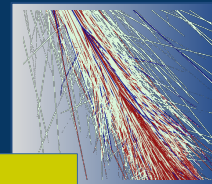


CORSIKA 8

Ralf Ulrich, 6.5.2021



- Welcome
- New contributors / collaborators
- Ongoing work, status and updates
- Discussions



Recent work, Roadmap

- First e.m. physics
- Magnetic fields
- New structure, build system
- New dependency management
- Fast logging

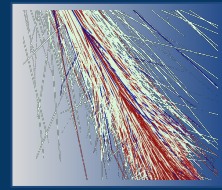
Slide from 11.2.2021
→ we are still on track

Today

- Output file generation
- Further work on e.m. / hadron / muon physics
- Radio emission
- Cherenkov emission
- Documentation

ICRC

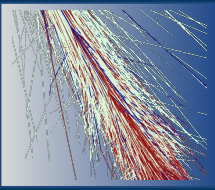
First release (validation and testing)



Next meetings

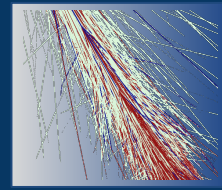
All meeting agendas collected at: <https://indico.scc.kit.edu/category/28/>

- Next general phone call:
 - June 10th (5 weeks) <https://indico.scc.kit.edu/event/2390/>
- Next topical phone calls (Thursdays 2:30 CEST):
 - Parallelization, next week
 - E.M. showers, in three weeks
 - Open slot, in two weeks (discuss open MRs)
 - Open slot, in four weeks (discuss open MRs)
 - Radio , Fridays (9:30am CEST)



ICRC, Milestone

- Ideas, and todo:
 - 1)EPOS
 - 2)Marsian atmosphere
 - 3)Hillas Splitting Algorithm
 - 4)Random number library
 - 5)Thinning
 - 6)Fluka
 - 7)Continuous Processes
 - 8)Further work on output
 - 9)Further work on documentation
 - 10)Keep examples more simple, reduce complexity
 - 11)Create actual “corsika” executable, now called “vertical_EAS”



For first alpha release

- 1)Physics validation (→ ICRC)
- 2)Benchmarking, Profiling
- 3)Parallelization, MT (readiness!)
- 4)Overhead, shared_pointer counting
- 5)Redesign of stack / particles (at least conceptually)
- 6)Evaluate and improve design of geometry
- 7)Evaluate and improve design of processes
- 8)Hadronic interaction interface