

Recap: Parallelism & Performance Meeting of 25/03/2021

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1. Presentation of RandomIterator C++ package

Presentation on new iterator-based and multithread friendly interface for pseudorandom number generation, deploying fast, reliable and a pair of brand new generators.

RandomIterator iterator is a stand alone package to be released independently under GPLv3 and distributed with CORSIKA 8.

2. Update C8 vs C7 performance comparisons.

summary:

- Physics got better agreement, but not fully compatible.
- Clang build running about a factor 2 slower than GCC build.
- CORSIKA 8 running about a factor 1.5 slower than CORSIKA 7.
- EM part missing on the comparisons.
- More systematic study and profiling required.

- Check march and other flags.
- Include possibility of flag customization on building configurations.
- Re-run the benchmarks with same and different seeds (per round).
- Include memory footprint.