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## Parallel Random Number Generation for SIMD/SIMT

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Sequences of pseudorandom numbers of high statistical quality and their efficient generation are critical for the use of Monte Carlo simulation in many areas of computational science. As high performance parallel computing systems equipped with wider vector pipelines or many-cores technologies become widely available, a variety of parallel pseudo-random number generators (PRNGs) are being developed for specific hardware architectures such as SIMD or GPU. However, portable libraries of random number services which can be used across different architectures and in hybrid computing models are not commonly available. We report on an initial implementation of library portable across serial CPUs, vector CPUs, accelerators and GPUs which rely on a common source code implementation for robustness and which use efficient implementations for most operations on each category of hardware. Results of preliminary performance evaluation and statistical tests are presented as well.

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