UNIFORM RANDOM NUMBER GENERATORS FOR SUPERCOMPUTERS

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Abstract

We consider the requirements for uniform pseudo-random number generators on modern vector and parallel supercomputers, consider the pros and cons of various classes of methods, and outline what is currently available. We propose a class of random number generators which have good statistical properties and can be implemented efficiently on vector processors and parallel machines. A good method for initialization of these generators is described, and an implementation on a Fujitsu VP 2200/10 vector processor is discussed.

Comments

Only the Abstract is given here. The full paper appeared as [1]. Related theory is given in [2]. For work on normally distributed random numbers, see [3].

References

1. R. P. Brent, "Uniform random number generators for supercomputers" *Proc. Fifth Australian Supercomputer Conference*, Melbourne, December 1992, 95–104. rpb132.
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3. R. P. Brent, *Fast Normal Random Number Generators for Vector Processors*, Technical Report TR-CS-93-04, Computer Sciences Laboratory, Australian National University, March 1993, 7 pp. rpb141.

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