

A partial exhaustive search for good two-term third-order multiple recursive random number generators

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Abstract

This paper considers the problem of searching for a vector of multipliers in a two-term third-order multiple recursive generator (3MRG) with the objective of maximizing the spectral test performance. On computers with double precision floating point, the maximum spectral value can serve as an initial threshold one. The spectral value found by this paper is superior to the best spectral value previously published for the full period 3MRG.

Keywords and Phrases: *Full period, Multiple recursive generator, Random number, Spectral test.*