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2-by-n hybrid cellular automata with regular configuration application

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Abstract

This paper introduces a new class of two-dimensional linear cellular automata and derive properties. A recursive relation is proved which enables the characteristic polynomial to be calculated, and minimal cost, maximal length generators of this type are listed for sizes n . Analysis of the two vector transition properties of the cellular automata is given and it is shown that sequential faults over a set of standard benchmarks, the two-dimensional cellular automata are, on average, better than one-dimensional linear hybrid cellular automata, and much better than registers.

Index Terms

Indexing

Controlled Indexing

[cellular automata](#) [finite state machines](#)

Non-controlled Indexing

[2-by-n hybrid cellular automata](#) [characteristic polynomial](#) [maximal length generators](#) [recursive relation](#) [regular configuration](#) [standard benchmarks](#) [vector transition](#)

Author Keywords

Not Available

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