

resulting path; the keys of the cryptosystem are the states of the CA and PCA, the evolution rules used and the number of evolution steps.

Development of new encryption techniques based on PCA implies a huge simulation effort in order to choose a number of local rules, combined with appropriate initial states and topology, which can be effectively applied in cryptography.

The encryption/decryption modules share the same structure, so it is easy for implementation (also in hardware). Because of the nature of the CA, the encryption algorithm is most efficient when implemented in massively parallel integrated circuits (FPGA).

In the immediate future, the PCA encryption project will be implemented in hardware, in FPGA circuits, to achieve *high speed* (specialized hardware has a significant performance advantage) and *good security* (there is no physical protection for an encryption algorithm written in software).

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7. References

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