On Some Parallel Implementation of Chaotic maps

Hyudyaim Ahmed

Konstantin Preslavsky University of Shumen, Bulgaria, Shumen, 9700, 115 Universitetska Str.

bytess91@gmail.com

Abstract

Keywords: parallel implementation, chaotic maps

Over the years secure transfer of information has become top priority in IT based systems. One example is image encryption. Our idea is to use a Logistic map for random number generation. This work discusses the improvements that could be made using parallel programming. The specific algorithms use block encryption and/or Multicore with OpenMP. In any case the point and the premise stay the same. Logistic map is used to create pseudo-random set of numbers which could predicted and to use an extra layer of another type of operation.

References

- 1. Burak, D. (2012). Parallelization of the Block Encryption Algorithm Based on Logistic Map. *Przegląd Elektrotechniczny*, 88(10b), 198-200.
- 2. Liu, J., Zhang, H., Song, D., Sun, G., Bi, W., & Buza, M. K. (2013, June). A parallel encryption algorithm of the logistic map for multicore with OpenMP. *Proceedings of IFOST* (Vol. 2, pp. 47-50). IEEE.
- 3. S. Dutta, S. Chakraborty, N. C. Mahanti. A Novel Method of Hiding Message Using Musical Notes, *International Journal of Computer Applications*, 1(16), 76-79, 2010.

The work is partially supported by the National Scientific Program "Information and Communication Technologies for a Single Digital Market in Science, Education and Security (ICTinSES)", financed by the Ministry of Education and Science, Bulgaria.