

YASH: YET ANOTHER STEGO HIDING*

Hristo Paraskevov[†] Aleksandar Stefanov[‡] Borislav Stoyanov[§]

DOI <https://doi.org/10.56082/annalsarscimath.2020.1-2.238>

Dedicated to Dr. Vasile Drăgan on the occasion of his 70th anniversary

Abstract

We present a novel pseudorandom insertion least significant bit (LSB) based hiding scheme using Circle map byte output. The proposed algorithm is analysed by means of computer simulation. We evaluated the designed LSB method with NIST and ENT statistical packages, peak signal-to-noise ratio, and histogram analysis. The results data show good performance of the novel stego hiding.

MSC: 68P25, 11K45, 94A60

keywords: chaotic maps, pseudorandom byte generator, least significant bit, steganography.

1 Introduction

Modern information technology is an integral part of our daily lives. Embedding hidden messages into images is an easy way for secure communication between two people.

*Accepted for publication on April 21, 2020

[†]h.paraskevov@shu.bg University of Shumen, Bulgaria; Paper written with financial support of the project RD-08-96/2019

[‡]a.stefanov@shu.bg University of Shumen, Bulgaria

[§]borislav.stoyanov@shu.bg University of Shumen, Bulgaria; Paper written is partially supported of 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.