## Fast search of reference fragments in fractal image coding

A.V. Chernov 1,2

<sup>1</sup>Image Processing Systems Institute of RAS

<sup>2</sup> Samara State Aerospace University named after academician S.P. Korolev

## Abstract

In this work, the authors suggest a fast method for finding the corresponding image fragments in the fractal coding problem based on approximation by second-order polynomials. A two-stage recurrence algorithm is described, estimates of computational complexity are provided.

<u>Keywords</u>: image coding, second-order polynomials, two-stage recurrence algorithm. <u>Citation</u>: Chernov AV. Fast search of reference fragments in fractal image coding. Computer Optics 2005; 28: 100-104.

## Access full text (in Russian)

## References

- [1] Barnsley M, Hurd L. Fractal image compression. Wellesley, MA: AK Peters; 1993.
- [2] Glumov NI, Myasnikov VV, Sergeyev VV. Polynomial bases for image processing in a sliding window. Pattern Recognition and Image Analysis 1994; 4(4): 408-413.
- [3] Fisher Y. Fractal image compression Theory and application. New York: Springer-Verlag: 1994.
- [4] Novak M. Attractor coding of image. Source: (ftp://ftp.informatik.uni-freiburg.de/papers/fractal).
- [5] Saupe D, Hamzaoui R. A review of the fractal image compression literature. ACM Computer Graphics 1994; 28(4): 268-279.
- [6] Saupe D, Hartenstein H. Lossless acceleration of fractal image compression by fast convolution. Proceedings of 3rd IEEE International Conference on Image Processing 1996; 1: 185-188.
- [7] Vatolin D, Ratushnyak A, Smirnov M, Yukin V. Data compression methods. Configuration of archivers, image and video compression [In Russian]. Moscow: "Dialog-MIFI" Publisher; 2002.
- [8] Voronin VV. Application of the Fourier transform to the problem of fractal coding of images. Computer Optics 1999; 19: 180-183.
- [9] Soifer VA, ed. Methods of computer image processing [In Russian]. Moscow: "Fizmatlit" Publiher; 2003.