

Synthesis of filters for processing images with a fractal structure

V.K. Bagmanov¹, A.K. Sultanov¹

¹ Ufa State Aviation Technical University

Abstract

The article considers the methodological approaches to realizing optimal filters for evaluating signals against interference with a stochastic scale-invariant structure. The proposed approaches can be used in satellite images processing.

Keywords: processing image, filter, fractal structure, stochastic scale-invariant structure, satellite images processing.

Citation: Bagmanov VK, Sultanov AK. Synthesis of filters for processing images with a fractal structure. Computer Optics 2005; 28: 156-159.

[Access full text \(in Russian\)](#)

References

- [1] Alexandrov RV, Gorsky ID. Image representation and processing: a recursive approach [In Russian]. Leningrad: "Nauka" Publisher; 1985.
- [2] Mandelbrot B. The fractal geometry of nature. San Francisco: WH Freeman and Co; 1982.
- [3] Potapov AA. Fractals in radio physics and radar: Sampling topology [In Russian]. Moscow: "Universitetskaya Kniga" Publisher; 2005.
- [4] Bagmanov VK, Sultanov AK, Meshkov IK. An experimental study of the scale-invariant data structure of satellite observation systems. Proceedings of Conference "Problems of engineering and technology of telecommunications: Sat Reports" (Ufa) 2005: 96-98.
- [5] Tikhonov VI. Statistical radios. Moscow: "Radio i Svyaz" Publisher; 1982.
- [6] Ishihara A. Statistical physics. New York: Academic Press; 1973; 471 p.
- [7] Feder J. Fractals. New York: Springer Science+Business Media; 1988.
- [8] Gradshteyn IS, Ryzhik IM. Table of integrals, series, and products. 6th ed. New York: Academic Press; 2000.
- [9] Dremine IM, Ivanov OV, Nechitailo VA. Wavelets and their uses. Physics-Uspekhi; 2001; 44: 447-478.