

Approximation methods for estimating the geometric characteristics of extended objects

A.V. Kupriyanov¹

¹ Image Processing Systems Institute of RAS

² Samara State Aerospace University

Abstract

The article discusses the possibility of using direct and spectral approximation methods to determine the thickness of tree-like objects. Several mathematical models of the profile of extended objects are studied. The accuracy of estimating thickness parameters of synthesized and real objects is also analyzed.

Keywords: Approximation method, extended object, mathematical model, synthesized and real object.

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References

- [1] Ilyasova NY. Methods and algorithms for evaluating the geometric parameters of diagnostic images. The thesis for the Candidate's degree in Technical Sciences. Samara; 1997.
- [2] Soifer VA, ed. Methods of computer image processing. Moscow: "Fizmatlit" Publisher; 2001.
- [3] Demidovich BP. Fundamentals of computer mathematics. Moscow: "Fizmatlit" Publisher; 1963.
- [4] Ilyasova NY, Ustinov AV, Baranov VG. An expert computer system for diagnosing eye diseases from retina images. *Computer Optics* 1999; 19: 202-209.
- [5] Ilyasova NY, Ustinov AV, Branchevsky SL, Durasov AB. Methods for estimating geometric parameters of retinal vessels using diagnostic images of fundus. *Proc SPIE* 1998; 3348: 316-325.