Connecting reference lines using a directional field

A.V. Ustinov [1,2]
[1] Image Processing Systems Institute of RAS;
[2] Samara State Aerospace University

Abstract

The article discusses the problem of reconstructing the connectivity of reference lines on quasiperiodic images. In this case, the condition of maintaining the curve shape is fulfilled. Three methods are described: a modified line-drawing along the directional field and two options for solving the variational problem: the finite-difference method and the Euler-Lagrange equation.

Keywords: directional field, reference line, quasiperiodic image, modified line-drawing, finite-difference method, Euler-Lagrange equation.

Citation: Ustinov AV. Connecting reference lines using a directional field. Computer Optics 2002; 24: 155 - 159.

Access full text (in Russian)

References

[1] Ilyasova NY, Ustinov AV, Khramov AG. Numerical methods and algorithms of building of directional fields in quasiperiodic structures. Computer Optics 1998; 18: 150-165.
[2] Ilyasova NY, Kovalev AA, Kupriyanov AV, Khramov AG. Reconstructing the line connectivity in binary images of tree-like structures [In Russian]. Computer Optics 2002; 23: 58-61.
[3] Tslaf LYa. Calculus of variations and integral equations [In Russian]. Moscow: "Nauka" Publisher; 1966.