ANALYSIS OF CONTOURS OF TUMOR MASSES IN MAMMOGRAMS BY HIGUCHI'S FRACTAL DIMENSION

Robert Stępień, Paweł Stępień

Nałęcz Institute of Biocybernetics and Biomedical Engineering, Polish Academy of Sciences, Warsaw, Poland

Abstract

We have tested a new method of assessment of mammographic images for medical diagnosis to differentiate between benign masses and malignant breast tumors. 2-D image is preprocessed to form l-D signature of the image contour and then its complexity is analyzed using the Higuchi's fractal dimension method. We prove that the Higuchi's fractal dimension, D_f, is a good classifier enabling differentiation between malignant tumors and benign masses.

Keywords: fractal dimension, breast cancer, image analysis