عنوان مقاله:

Wavelet for Estimation of Fractal Dimension in ALOS-PALSAR Images

محل انتشار:

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نویسندگان:

H Aghababaee - *Department of Surveying Engineering, College of Engineering, University of Tehran, Tehran, Iran*

J Amini

خلاصه مقاله:

Fractional Brownian Motion (fBm) has been successfully exploited to model an important number of physical phenomena and non-stationary processes such as remote sensing image. These mathematical models closely describe essential properties of natural phenomena, such as self similarity, scale invariance and fractal dimension. There are several methods to estimate fractal dimension in Fractional Brownian motion model. The use of wavelet analysis combined with fBm analysis may be provide an interesting approach to compute key value for fBm Processes, such as fractal dimension. In this paper we used power spectrum approach to calculate the Hurst coefficient (H) and then fractal dimension for both one-dimensional and two-dimensional signals and then tested the algorithm, on ALOS-PALSAR (Japanese satellite) image. Fractal dimension of image indicates the edge detection algorithm so we compared the results with classical edge detection method such as canny and sobel operators

کلمات کلیدی:

Fractal Dimension, Remote Sensing Images, Wavelet Multiresolution