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"Emprego da Dimensão Fractal para Análise de Texturas em Imagens Multiespectrais"

On digital image processing, an important area is image understanding or scene analysis. In many image-understanding applications the main objective is region detection and segmentation. Texture segmentation allows identification of background and distinct regions in an image. While texture identification is very easy for us humans, it is very difficult to teach a computer the rudiments of a texture. Because how you can say to the computer what texture is? Texture can be described as a standard variation of tones and color in determined area and it is characterized by the repetition of a model on a region. An important application of fractais is the field of identification of complex sets. The main aspect of fractal geometry used in such application is the concept of fractal dimension to characterize regions' complexity. In this work, a new idea is presented: the use of fractal dimension for identification of the texture in multispectral or multi-bands images. Such proposal is not only a simple extension of the usual determination of the fractal dimension in gray level images because the relationship between image bands is examined and the results are used in the analysis of the texture. The possibility of characterization of textures in multispectral images opens a field of applications in the most diverse areas. A relevant aspect is that no other approach for more than 3 bands have been used until now.