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Augmentation of Colored Satellite Imagery by Means of Vector Field Method

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Abstract: A Multispectral image is modeled as vector field with a number of dimensions equal to the number of bands in the image. In this model pixel is defined as a vector composed of a number of elements equal to the number of bands. It is often necessary to enhance multispectral radiance or reflectance data to create an image that is suitable for visual interpretation. A general method is needed that works for any number of bands, with no parameters and a reasonable computing time. To fulfillthis goal. contrast stretch models a multi-spectral image by means of vector field. The dimension of this filed equals the number of bands of the image. Such an evaluation includes qualitative and quantitative analysis which will show clear improvements compared to state-of-art methods.

Keywords: Edge Detection, Multispectral Image, Edge Enhancement, Vector Operator.

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