



Fractal structure in the color distribution of natural images

Submitted by Emmanuel Lemoine on Thu, 01/30/2014 - 14:34

Titre Fractal structure in the color distribution of natural images
Type de publication Article de revue
Auteur Chapeau-Blondeau, François [1], Chauveau, Julien [2], Rousseau, David [3], Richard, Paul [4]
Editeur Elsevier
Type Article scientifique dans une revue à comité de lecture
Année 2009
Langue Anglais
Date 2009/10/15
Numéro 1
Pagination 472 - 482
Volume 42
Titre de la revue Chaos, Solitons and Fractals
ISSN 0960-0779

Résumé en anglais The colorimetric organization of RGB color images is investigated through the computation of the correlation integral of their three-dimensional histogram. For natural color images, as a common behavior, the correlation integral is found to follow a power law, with a noninteger exponent characteristic of a given image. This behavior identifies a fractal or multiscale self-similar distribution of the colors contained in typical natural images. This finding of a possible fractal structure in the colorimetric organization of natural images complement other fractal properties previously observed in their spatial organization. Such fractal colorimetric properties may be helpful to the characterization and modeling of natural images, and may contribute to progress in vision.

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DOI 10.1016/j.chaos.2009.01.008 [6]
Lien vers le document <http://dx.doi.org/10.1016/j.chaos.2009.01.008> [6]

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