

A COMPARATIVE STUDY OF DIFFERENT METHODS FOR FRACTAL IMAGE COMPRESSION

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Fractal image compression can be done by partitioning of an image into different domains, and for each domain there is a transformation into range element. The normal algorithm produces for this purpose is known as Recurrent Iterated Function System. The domain-range equivalence also applied to the general inverse problem of RIFS. The method of fractal image compression through RIFS is better than general fractal image compression technique. RIFS are improvements of IFS using elements of the theory of Markovian stochastic processes which can produce more natural looking images. New RIFS consists of vertical contraction factor function and nonlinear transformations. A very fast fractal-based image compression encoding technique is the theory of IFS with probabilities. In this approach a Markov operator associated with the probability operator. One more extension of IFS theory for image compression is partitioned or local iterative function system (PIFS) for coding the gray level images. The difference between PIFS and IFS technique for image compression is in the application domain and computational cost.

1. Introduction

Image compression through Iterated Function system was first introduced by Baransley [1, 2]. The set of Contractive affine transformation is known as IFS. The attractor of this affine transformation is the given image. The main focus of the IFS is to find fixed point or attractor by applying different mappings iteratively. Baransley also introduced the collage theorem by applying which unique fixed point

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