IFS on the multi-fuzzy fractal space.

ABSTRACT

The IFS is a scheme for describing and manipulating complex fractal attractors using simple mathematical models. More precisely, the most popular "fractal –based" algorithms for both representation and compression of computer images have involved some implementation of the method of Iterated Function Systems (IFS) on complete metric spaces. In this paper a new generalized space called Multi-Fuzzy Fractal Space was constructed. On these spases a distance function is defined, and its completeness is proved. The completeness property of this space ensures the existence of a fixed-point theorem for the family of continuous mappings. This theorem is the fundamental result on which the IFS methods are based and the fractals are built. The defined mappings are proved to satisfy some generalizations of the contraction condition.