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CANTOR SET AND SOME OF ITS GENERALIZATIONS AS FRACTALS

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Abstract

The Cantor set is an example of an uncountable set with measure zero and has potential applications in various branches of mathematics such as topology, measure theory, dynamical systems, fractal geometry etc. It exhibits most of the characteristics of a fractal which are self similar in nature and have fractional dimension. In fact, the Cantor set is the simplest model of a fractal. In this paper, we have provided three types of generalization of the Cantor set depending on the process of its construction. Also, we discuss some characteristics of the fractal dimensions of these generalized Cantor sets.

Key Words : *Box counting dimension, Cantor set, Capacity dimension, Fractal.*