Original Articles

# Construction and Dimension Analysis for a Class of Fractal Functions

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摘要      In this paper, we construct a class of nowhere differentiable continuous functions by means of the Cantor series expression of real numbers. The constructed functions include some known nondifferentiable functions, such as Bush type functions. These functions are fractal functions since their graphs are in general fractal sets. Under certain conditions, we investigate the fractal dimensions of the graphs of these functions, compute the precise values of Box and Packing dimensions, and evaluate the Hausdorff dimension. Meanwhile, the H?lder continuity of such functions is also discussed.

关键词      cantor series expression   dyadic   nondifferentiable

分类号

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