

ON THE BOUNDS OF SCALING FACTORS OF AFFINE FRACTAL INTERPOLATION FUNCTIONS

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Abstract. In this paper we obtain an upper bound and a lower bound for each vertical scaling factor s_k of an iterated function system so that the obtained affine fractal interpolation function f_Δ has the property that $R(x) - d \leq f_\Delta(x) \leq R(x) + D$ for all $x \in I$, where D and d are given positive constants and $R(x) = mx + c$ is a given linear function on I . As an example, we consider the case that the graph of R is the regression line that fits the given data points by least square method.

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