

1154-42-2107 **Calvin F Hotchkiss*** (hotchkis@udel.edu). *Fourier Bases for Certain Fractal L^2 Spaces.*

We discuss the generation of Fourier bases for fractal L^2 spaces generated by iterated function systems. In particular, we consider a certain iterated function system, whose invariant set is a skewed Sierpinski gasket, $S = \{(x, y) \in \mathbb{R}^2 : x \in C_3, y \in C_3, x + y \in C_3\}$, where C_3 is the standard middle-thirds Cantor set. We show the existence of sequences of exponentials which form orthonormal bases on $L^2(S)$, including an infinite set of such bases. (Received September 17, 2019)