

1067-42-1050

Eric Weber* (esweber@iastate.edu), Department of Mathematics, 396 Carver Hall, Iowa State University, Ames, IA 50011. *Bessel Sequences of Exponentials on Fractal Measures.*

Some fractal measures ν have (orthogonal) spectra—a sequence of exponentials which form an orthonormal basis in $L^2(\nu)$ —but many do not. We will discuss a number of results which use a fractional Beurling density to attempt to describe nonorthogonal spectra for a fractal measure μ —sequences of exponentials which form a Bessel sequence or a Riesz basic sequence in $L^2(\mu)$, even if μ does not have an orthogonal spectrum.

The results include collaboration with Dorin Dutkay, Deguang Han, and Qiyu Sun. (Received September 17, 2010)