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**Palle E.T. Jorgensen, Keri A. Kornelson\*** (kkornelson@math.ou.edu) and **Karen L. Shuman.** *Families of orthonormal bases for fractal measures.* Preliminary report.

For certain scale parameters, it is known (Jorgensen, Pedersen 1998) that the equilibrium measure generated by an Bernoulli affine iterated function system is spectral, i.e. that the  $L^2(\mu)$  Hilbert space contains an orthonormal basis of complex exponential functions. These ONBs are not generally unique. We produce families of ONBs for fixed scale values. These collections of ONBs naturally produce isometry operators on the Hilbert space which contain their own type of self-similarity. (Received January 17, 2011)