Keri Kornelson* (kkornelson@math.ou.edu), Palle Jorgensen and Karen Shuman. Spectral sets for $\frac{1}{2^n}$-Bernoulli convolutions.

Bernoulli convolution measures $\mu_\lambda$ arise from an iterated function system of 2 affine maps on the real line: $\tau_\pm(x) = \lambda(x \pm 1)$. We examine maximal orthogonal sets and orthonormal bases of exponential functions with respect to the Hilbert space $L^2(\mu_\lambda)$ with parameter $\lambda = \frac{1}{2^n}$. We also observe the operator properties of isometries mapping between these sets of exponentials. (Received September 20, 2009)