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Fourier frames for the Cantor-4 set.

The measure supported on the Cantor-4 set constructed by Jorgensen-Pedersen is known to have a Fourier basis, i.e. that it possess a sequence of exponentials which form an orthonormal basis. We construct Fourier frames for this measure via a dilation theory type construction. We expand the Cantor-4 set to a 2 dimensional fractal which admits a representation of a Cuntz algebra. Using the action of this algebra, an orthonormal set is generated on the larger fractal, which is then projected onto the Cantor-4 set to produce a Fourier frame. (Received February 15, 2016)