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**Dorin Ervin Dutkay\*** (ddutkay@math.rutgers.edu), Department of Mathematics, Hill Center, Busch Campus, Rutgers University, 110 Frelinghuysen Road, Piscataway, NJ 08854, and **Palle E.T. Jorgensen**, Department of Mathematics, The University of Iowa, 14 MacLean Hall, Iowa City, IA 52242. *Multiresolution constructions in non-linear dynamics and fractals.*

We show how the techniques of wavelet theory can be applied to a much larger context, that of discrete dynamical systems and iterated function systems. As an example, we use these ideas to construct bases of exponentials for a class of fractal measures. (Received September 13, 2005)