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**Judith A Packer\*** ([packer@euclid.colorado.edu](mailto:packer@euclid.colorado.edu)), Department of Mathematics, Campus Box 395, University of Colorado, Boulder, CO 80305-0395, and **Iain Raeburn** ([iain.raeburn@newcastle.edu.au](mailto:iain.raeburn@newcastle.edu.au)), School of Mathematical and Physical Sciences, University of Newcastle, 2308 Newcastle, NSW, Australia. *The use of filters and direct limits in the construction of fractal wavelets*. Preliminary report.

Several years ago, D. Dutkay and P. Jorgensen introduced multiresolution theory for fractal spaces and constructed examples of what they termed “fractal wavelets”. More recently, N. Larsen and the second author have initiated a study of the construction of wavelets from quadrature mirror filters by means of direct limits of Hilbert spaces. In this preliminary report, we discuss how one can apply the ideas of Larsen and the second author to construct some fractal wavelets. This work is based on discussions with L. Baggett, N. Larsen, K. Merrill, and A. Ramsay. (Received September 27, 2005)