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Gestur Olafsson* (olafsson@math.lsu.edu), Department of Mathematics, Louisiana State University, Baton Rouge, LA 70803, and **David Larson** and **Peter Massopust**. *Wavelets and three-way tiling sets in two dimensions.*

We will discuss the connection between wavelets and tiling. In particular we will discuss a joint result with David Larson, Peter Massopust, that in two dimension there exists measurable sets T with finite measure that tiles the two dimensional Euclidean space in a measurable way under the action of a expansive matrix W , an affine Weyl group W , i.e., a semidirect product of a finite Coxeter group and a lattice, and a full rank lattice. (Received July 25, 2007)