1037-46-336 **David R. Larson*** (`larson@math.tamu.edu`), Department of Mathematics, Texas A&M University, College Station, TX 77843, and **Peter Massopust** and **Gestur Olafsson**. *Three way tiling sets: dilation, translation, reflection.* Preliminary report.

In two papers, the authors have developed the basics of a theory of Lebesgue measurable sets in R^n which are simultaneously dilation-translation wavelet sets in the traditional sense, and also dilation-reflection wavelet sets, where the translation group of a full rank lattice in the traditional theory is replaced with the affine Weyl group (reflection group) affiliated with a foldable figure. We will discuss the results we have obtained so far, and we will also discuss some open problems and directions. (Received February 05, 2008)