998-46-28   **Gestur Olafsson*** (`olafsson@math.lsu.edu`), Department of Mathematics, Louisiana State University, Baton Rouge, LA 70803, and **Darrin Speegle**, Department of Mathematics, Saint Louis University, St. Louis, MO 63103. *Group action and Wavelet frames in R^n.*

We have, jointly with D. Speegle, given a general construction for wavelet frames in R^n. This construction is based on a semidirect product of groups acting on R^n. Each of the groups is assumed to have a co-compact discrete subgroup. Their product, which in general is not a group, is used to construct a discrete set of dilations. We will not discuss the general construction, but motivate it by some simple examples in the plane. (Received January 02, 2004)