983-41-879 **Douglas P Hardin*** (doug.hardin@vanderbilt.edu), Dept of Mathematics, Nashville, TN 37240-0001, and **Bruce Kessler** (bruce.kessler@wku.edu), Dept. of Mathematics, Bowling Green, KY 42101. *Continuous orthogonal wavelets on semi-regular triangulations.* Preliminary report.

Recently there has been substantial interest in constructing wavelets on nested sequences of nonuniform partitions. A sequence of partitions obtained by uniformly subdividing an arbitrary initial coarse partition is said to be *semi-regular*. We develop a construction of orthogonal "wavelet macroelements" that may be pieced together to construct continuous, orthogonal, wavelet bases on semi-regular sequences of triangulations. The bases at level j consist of local functions whose support is at most the star of a vertex in the j-th triangulation. (Received September 30, 2002)