1046-65-1000 **Tian-Xiao He*** (the@iwu.edu), Dept. Math. & CS, P. O. Box 2900, Illinois Wesleyan University, Bloomington, IL 61702-2900. *Spline Wavelets, Finite Element Wavelets, and Wavelets with Composite Dilation.* Preliminary report.

We present here some preliminary work for continuing and smoothing off the two-dimensional Haar-type composite wavelets. A comparison of the wavelets with composite dilation, spline wavelets, and finite element wavelets will be discussed. Finally, the advantages of one-dimensional composite wavelets and a brief application of wavelets with composite dilation in the numerical solution of differential equations will also be considered (Received September 13, 2008)