

**Meeting:** 999, Nashville, Tennessee, SS 2A, Special Session on Wavelets, Frames, and Sampling

999-41-271      **David W Roach\*** (david.roach@murraystate.edu), Faculty Hall 6C-19, Murray State University, Murray, KY 42071. *Semi-orthogonal wavelets for elliptical problems with non-uniform partitions*. Preliminary report.

In this talk, the construction of piece-wise linear compactly supported functions will be given which are semi-orthogonal with respect to an elliptic bilinear form. We will demonstrate their use in the numerical solution of a 2nd-order boundary value problem with a non-uniform partition. As time allows, other bases will be considered as well. (Received August 24, 2004)