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**Fritz Keinert\*** ([keinert@iastate.edu](mailto:keinert@iastate.edu)). *Regularity and Construction of Boundary Multiwavelets.*

Boundary functions for wavelets on a finite interval are often constructed as linear combinations of boundary-crossing scaling functions. A more general approach uses boundary recursion relations. We describe a number of results that relate the two approaches, and show how to characterize regularity of boundary functions from their recursion coefficients. These results are applied in a new algorithm for constructing boundary multiwavelets with maximal approximation order for given interior multiwavelets. (Received March 11, 2014)