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Lawrence W. Baggett* (lawrence.baggett@colorado.edu), **Veronika Furst**, **Kathy Merrill**
and **Judith Packer**. *Abstract generalized multiresolution structures*. Preliminary report.

Let $\{V_j\}$ be a generalized multiresolution analysis relative to operators T and D . We investigate the non-standard situation in which the spectral measure μ , associated to the unitary operator T restricted to the core subspace V_0 , is not Lebesgue measure. There is still a function h serving as a low-pass filter, but the “filter equation” it satisfies is not the usual one. We show that such non-standard GMRA's do indeed exist, but that the normal notion of associated wavelets no longer holds. (Received February 06, 2010)