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Richard A Zalik* (zalik@auburn.edu), Department of Mathematics, Auburn University, AL 36849-5310. *On Semiorthogonal Riesz Wavelets*. Preliminary report.

Wilson and Weiss have shown that if $\{\psi_1, \dots, \psi_m\}$ is an orthonormal multivariate wavelet in $L^2(\mathbb{R}^d)$ associated with a multiresolution analysis, then $m = 2^d - 1$. We show that this assertion is true for any MRA semiorthogonal Riesz wavelet having the property that there is an orthonormal multivariate wavelet associated with the same MRA. We also find a representation theorem for such Riesz wavelets. (Received January 18, 2006)