**Tuomas Hytönen**: *Vector-valued wavelets and the Hardy space $H^1(\mathbb{R}^n;X)$*; Helsinki University of Technology Institute of Mathematics Research Reports A461 (2003).

**Abstract:** *We prove an analogue of* Y. Meyer*'s wavelet characterization of the Hardy space $H^1(\mathbb{R}^n)$ for the space $H^1(\mathbb{R}^n;X)$ of $X$-valued functions. Here $X$ is a Banach space with the UMD property. The proof uses results of* T. Figiel *on generalized Calderón–Zygmund operators on Bôchner spaces and some new local estimates.*

**AMS subject classifications:** 42B30, 42C40, 46E40

**Keywords:** wavelet basis, atomic decomposition, generalized Calderón–Zygmund operators, UMD-space

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