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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