QUANTITATIVE ESTIMATES FOR THE UNCONDITIONAL CONSTANT OF WAVELET BASES ON FUNCTION SPACES

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Abstract: In this poster, we present quantitative bounds for the unconditionality constants of wavelet bases generated by smooth functions with mild decay, such as Meyer, Lemarié–Meyer, Daubechies (with at least three vanishing moments), and higher-order spline wavelets. Our results are set in the framework of weighted Lorentz spaces $\Lambda^p_u(w)$, which generalize both weighted Lebesgue and classical Lorentz spaces. More precisely, we provide explicit estimates for the unconditionality constants of the aforementioned wavelet bases in terms of the weights $u \in A_\infty$ and $w \in B^*_\infty$, introduced by Muckenhoupt and Ariño–Muckenhoupt, respectively. This is a joint work with Jorge Antezana, from the University of Barcelona.