WEIGHTED MAXIMAL INEQUALITIES FOR MARTINGALE TRANSFORMS[*]

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Abstract. We study the weighted maximal L^1-inequality for martingale transforms, under the assumption that the underlying weight satisfies Muckenhoupt's condition A_∞ and that the filtration is regular. The resulting linear dependence of the constant on the A_∞ characteristic of the weight is optimal. The proof exploits certain special functions enjoying appropriate size conditions and concavity.

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