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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 Muck-enhoupt'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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Key words and phrases: martingale, weight, Bellman function, maximal function.

THE FULL TEXT IS AVAILABLE HERE

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