A conjecture of E. Sawyer for the Hilbert Transform and weights

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Muckenhoupt and Wheeden in [2], and later on Sawyer in [5], gave one-dimensional highly nontrivial extensions of the basic weak type \((1,1)\) property of the maximal function involving weights. These results were conjectured to be true for the Hilbert transform and for the maximal function in higher extensions. These conjectures were proved in [1] and extended in different directions. In this lecture we will survey about results and present new more precise quantitative estimates involving the \(A_p\) or \(A_\infty\) constants of the weights involved.

This is part of joint work with S. Ombrosi and J. Recchi [3], [4].


