Journal of Mathematical Inequalities
Volume 12, Number 2 (2018), 551–557
doi:10.7153/jmi-2018-12-41

ON WEIGHTED HARDY INEQUALITIES FOR NON–INCREASING SEQUENCES

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Abstract. A result of Bennett and Grosse-Erdmann characterizes the weights for which the corresponding weighted Hardy inequality holds on the cone of non-negative, non-increasing sequences and a bound for the best constant is given. In this paper, we improve the bound for $1 < p \leqslant 2$.

Mathematics subject classification (2010): Primary 47B37.
Keywords and phrases: Weighted Hardy inequalities.

REFERENCES

[1] M. A. ARIÑO AND B. MUCKENHOUPT, *Maximal functions on classical Lorentz spaces and Hardy's inequality with weights for nonincreasing functions*, Trans. Amer. Math. Soc. **320** (1990), 727–735.
[2] G. BENNETT AND K.-G. GROSSE-ERDMANN, *Weighted Hardy inequalities for decreasing sequences and functions*, Math. Ann. **334** (2006), 489–531.
[3] P. GAO, *Sums of powers and majorization*, J. Math. Anal. Appl. **340** (2008), 1241–1248.

Paper JMI-12-41