



A HARDY-LITTLEWOOD-TYPE INEQUALITY FOR THE p -LAPLACIAN

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Hardy and Littlewood's inequality

$$\int_0^\infty |f'|^2 \leq 2 \sqrt{\int_0^\infty |f''|^2} \sqrt{\int_0^\infty |f|^2}$$

has been generalised to the family of HELP inequalities, where the second derivative on the r.h.s. is replaced by a more general linear second-order differential operator.

This talk reports on recent joint work with S. Aumann and B.M. Brown, establishing an analogous integro-differential inequality for the (non-linear) p -Laplacian on the half-line, including an estimate for the optimal constant.