A RELATION BETWEEN TWO CLASSES OF INDEFINITE WEIGHTS IN SINGULAR ONE–DIMENSIONAL $p$–LaplACIAN PROBLEMS

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Abstract. We introduce several types of classes of an indefinite weight $h$ in singular one-dimensional $p$-Laplacian problems

$$\phi_p(u'(t))' + h(t)f(u(t)) = 0,$$

where $\phi_p(x) = |x|^{p-2}x$, $p > 1$ and $h \in C((0, 1), [0, \infty))$ may be singular at 0 and/or 1 and $f \in C([R, R])$. We show a relation among them according to $p$ employing Minkowski inequality and integral transformations.


Key words and phrases: Singular one-dimensional $p$–Laplacian problem, indefinite weight, Minkowski inequality.

REFERENCES