GENERALIZED WEIGHTED HARDY’S INEQUALITIES WITH COMPACT PERTURBATIONS

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Abstract. Let \( \Omega \) be a bounded domain of \( \mathbb{R}^N \) (\( N \geq 1 \)) with boundary of class \( C^2 \). In the present paper we shall study a variational problem relating the weighted Hardy inequalities with sharp missing terms established in [8]. As weights we treat non-doubling functions of the distance \( \delta(x) = \text{dist}(x, \partial \Omega) \) to the boundary \( \partial \Omega \).


Keywords and phrases: Weighted Hardy’s inequalities, nonlinear eigenvalue problem, weak Hardy property, \( p \)-Laplace operator with weights.

REFERENCES