

# NONEXISTENCE RESULTS FOR NONLINEAR EIGENVALUE PROBLEMS

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## Abstract

Our purpose is to discuss nonexistence results for solutions of differential inequalities

$$-\Delta_A u \geq \Phi(u), \quad (1)$$

where  $u$  is supposed to be nonnegative and defined on  $\mathbf{R}^n$ ,  $\Delta_A u = \operatorname{div}(A(\nabla u))$  is an  $A$ -harmonic operator satisfying certain additional assumptions. When  $A(\lambda) = |\lambda|^{p-2}\lambda$ ,  $p > 1$ , and  $\Phi(\lambda) = \lambda^q$ , the result was already studied in the paper by Pohozaev and Mitidieri [2]. Our approach is an extension of this classical result to Orlicz setting. We illustrate it within functions  $A$  and  $\Phi$  of power-logarithmic-type. We also obtain new a priori estimates for solutions of (1). The result is based on joint work [1].

## References

- [1] A. KAŁAMAJSKA, K. PIETRUSKA-PALUBA, I. SKRZYPCZAK, *On some nonexistence results for differential inequalities involving  $A$ -Laplacian*, preprint available at <http://www.mimuw.edu.pl/badania/preprinty/preprinty-imat/>
- [2] E. MITIDIERI, S. I. POHOZAEV, *Nonexistence of positive solutions for Quasilinear Elliptic Problems on  $\mathbf{R}^n$* , Proceedings of the Steklov Institute of Mathematics, Vol. 227, 1999, 1-32.