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**Remarks on least energy solutions for quasilinear elliptic problems in  $\mathbb{R}^N$ .** (English)

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[Electron. J. Differ. Equ. 2003, Paper No. 83, 14 p. \(2003\).](#)

The authors consider the quasilinear elliptic problem

$$-\Delta_p w = g(w), \quad \text{in } \mathbb{R}^N, \quad (1)$$

where  $\Delta_p u = \operatorname{div}(|\nabla u|^{p-2} \nabla u)$  is the  $p$ -Laplacian operator and  $1 < p \leq N$ . Using variational methods more precisely by a constrained minimization argument, they show the existence of ground states solutions (or least energy solutions) for the (1) in both cases,  $1 < p < N$  and  $p = N$ . They prove also that the mountain-pass value gives the least energy level and obtain the exponential decay of the derivatives of the solutions of (1).

Reviewer: [Messoud A. Efendiev \(Berlin\)](#)

**MSC:**

[35J20](#) Variational methods for second-order elliptic equations

[35J60](#) Nonlinear elliptic equations

Cited in **2** Documents

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[Variational methods](#); [minimax methods](#); [superlinear elliptic problems](#); [p-Laplacian](#); [ground-states](#); [mountain-pass solutions](#)

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