

**Alves, C. O.; Goncalves, J. V.; Miyagaki, O. H.**

**On elliptic equations in  $\mathbb{R}^N$  with critical exponents.** (English) Zbl 0854.35037  
Electron. J. Differ. Equ. 1996, No. 9, 11 p. (1996).

Summary: We use variational arguments – namely Ekeland’s principle and the Mountain Pass Theorem – to study the equation

$$-\Delta u + a(x)u = \lambda u^q + u^{2^*-1} \quad \text{in } \mathbb{R}^N.$$

The main concern is overcoming compactness difficulties due both to the unboundedness of the domain  $\mathbb{R}^N$ , and the presence of the critical exponent  $2^* = 2N/(N - 2)$ .

**MSC:**

[35J65](#) Nonlinear boundary value problems for linear elliptic equations

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

Cited in **2** Documents

**Keywords:**

removable singularity; Ekeland’s principle; Mountain Pass Theorem

**Full Text:** [EuDML](#) [EMIS](#)