

**Damascelli, Lucio**

**Some remarks on the method of moving planes.** (English) Zbl 1040.35032  
Differ. Integral Equ. 11, No. 3, 493-501 (1998).

The article deals with a nonlinear elliptic equation in divergence form given in a bounded domain with the homogeneous Dirichlet boundary condition. The domain is symmetric with respect to a hyperplane, symmetry and monotonicity properties of coefficient functions of the equation are supposed. The author proposes a variational approach to the method of moving planes. The approach is based on comparison principles for nonlinear operators and does not rely on the Alexandrov-Bakelman-Pucci's inequality. The method is applied to weak solutions of the nonlinear elliptic equation in a general domain (i.e., without supposing any smoothness of the boundary). The symmetry result for a weak solution of the problem is proved.

Reviewer: [Stanislav Kračmar \(Praha\)](#)

**MSC:**

[35J65](#) Nonlinear boundary value problems for linear elliptic equations  
[35J20](#) Variational methods for second-order elliptic equations

Cited in **4** Documents

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[nonlinear elliptic equation in divergence form](#); [bounded domain](#); [homogeneous Dirichlet boundary condition](#); [weak solutions](#); [comparison principles for nonlinear operators](#)