Existence of positive solutions of a class of semilinear elliptic systems

Caizhong Li and Libin Mou

Department of Mathematics
Sichuan University, Chengdu, China

Abstract

A generalization of quasiconvexity was introduced in this paper. The relation (necessary and sufficient conditions) between this convexity of a function and the lower semicontinuity of the corresponding integral functional was proved, generalizing a main result in Lecture Notes in Math., 922, Springer, Berlin, 1982; MR0658130 (84f:49020) by B. Dacorogna.

Key Words: *General quasiconvexity, lower-semicontinuity, compensated compactness.*