On a New Approach to Some Problems of Classical Calculus of Variations

N. Azbelev, E. Bravyi and S. Gusarenko[†]

Perm State Technical University, Research Center "Functional Differential Equations", 614600, Perm, Komsomol'skii pr. 29a, Russia

Received: November 23, 2001; Revised: June 14, 2002

Abstract: Employing the contemporary theory of functional differential equations, we propose an effective test on the existence of a minimum for a wide class of functionals in various Banach spaces.

Keywords: Variational problem; boundary value problem; functional differential equation; sufficient conditions.

Mathematics Subject Classification (2000): 49K25.