

A. A. Kovalevskii. **On the connectedness of subsets of Sobolev spaces and Γ -convergence of functionals with variable domain** // Nelinejnye granichnye zadachi (Nonlinear Boundary Value Problems). – 1989. – **1**. – p. 48-54.

Let k, n be natural numbers, $n \geq 2$, m be a real number, $m > 1$, Ω be a bounded domain of $\mathbb{R}^n$ with Lipschitz boundary, $\{\Omega_s\}$ be a sequence of domains contained in Ω . In this article some notions of connectedness of a sequence of sets $V_s \subset W_m^k(\Omega_s)$ with a set $V \subset W_m^k(\Omega)$ and the notion of $\Gamma(\{V_s\}, V)$ -convergence of a sequence of functionals $I_s: W_m^k(\Omega_s) \rightarrow \mathbb{R}$ to a functional $I: W_m^k(\Omega) \rightarrow \mathbb{R}$ are introduced and studied. Properties of these notions, and in particular, their connection with the question of convergence of solutions of variational problems for functionals I_s are considered.