

ON THE BEHAVIOR SOLUTION OF THE FIRST BOUNDARY VALUE PROBLEM FOR THE SECOND ORDER DIVERGENT PARABOLIC EQUATIONS

Abstract

An article deals with the first boundary value problem for the second order divergent parabolic equations. The regularity of boundary point is considered in supposition that in some neighborhood of this point boundary of domain has some special symmetric.

Investigations for regularity of boundary point for the second order parabolic equations begins from well-known work of Petrowski [1], in which unclosing with one other necessary and sufficient conditions of regularity for one-dimensional heat equation for domains restricted by straights $t = t^1$, $t = t^2$ and curves $x = \varphi_1(t)$, $x = \varphi_2(t)$ have been established. In works of Landis [2], [3] have been received the criteria of regularity for many-dimensional heat equation. In work [4] Evans and Gariepy established the necessary and sufficient condition for heat equation in terms of divergence of series from heat capacity. Further these results have been used for more large class of parabolic equations in works [5], [6], [7], [8]. Also note the work of Garafolo and Lancanelli.