
A Phragmen – Lindelof Theorem for High Order Nonlinear Elliptic Equations

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Bauman Moscow State Technical University, Moscow, 105005, Russia

A uniformly elliptic equation

$$\sum_{|\alpha|=|\beta|=m} D^\alpha(a_{\alpha\beta}(x)|D^m u|^{p-2}D^\beta u) = 0, \quad p > 1$$

with measurable bounded coefficients is considered in a semi-cylinder

$$H = \{x \in \mathbb{R}^n : 0 < x_n < \infty, x' \in \Omega \subset \mathbb{R}^{n-1}\}$$

where $x = (x_1, \dots, x_n) = (x', x_n)$, Ω is a bounded Lipschitz domain.

Some integral estimates for solutions are obtained at infinity provided that homogeneous Neumann conditions are performed at the lateral side of the cylinder.

Keywords: *Nonlinear elliptic equation, Neumann homogeneous condition, integral estimates of solutions.*

Grishina G.V., Ph.D., Assoc. Professor of “Applied Mathematics” Department of Bauman Moscow State Technical University. e-mail: galinavg@yandex.ru
