

NONLINEAR PARABOLIC EQUATIONS DEGENERATING ON A PART OF THE DOMAIN

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Abstract

We study nonlinear parabolic equations of the p-Laplace type uniformly degenerating on a part of the domain. The rate of degeneracy is controlled by a small parameter “epsilon”. For any fixed positive “epsilon” regularity properties of solutions to this equation are covered by the theory developed over the last three decades by E. DiBenedetto, Y. Chen, U. Gianazza, V. Vespi etc. The main point of interest of our work is to obtain estimates for solutions, which are uniform with respect to the small parameter “epsilon”.