



BLOW-UP FOR A DEGENERATE REACTION-DIFFUSION EQUATION WITH NONLOCAL SOURCE AND ABSORPTION

Lixin Shi

Abstract

In this paper, we consider a degenerate reaction diffusion equation

$$(u^k)_t - \Delta u = u^q \int_0^t u^p(x, s) ds - au^l, \quad x \in \Omega, \quad t > 0$$

with homogeneous Dirichlet boundary conditions, where p, q are nonnegative constants and $0 < k < 1$. The blow-up criteria is obtained.

Keywords and phrases: degenerate and singular parabolic equation, blow up.

Pioneer Journal
of Advances in
Applied
Mathematics



Pioneer Scientific
Publisher