

GLOBAL EXISTENCE OF WEAK SOLUTIONS TO FOREST KINEMATIC MODEL WITH NONLINEAR DEGENERATE DIFFUSION

MITSUKI KOBAYASHI

Department of Pure and Applied Mathematics, Waseda University,
3-4-1 Ohkubo, Shinjuku-ku, Tokyo 169-8555, JAPAN
(E-mail: mitsuki@fuji.waseda.jp)

and

YOSHIO YAMADA*

Department of Pure and Applied Mathematics, Waseda University,
3-4-1 Ohkubo, Shinjuku-ku, Tokyo 169-8555, JAPAN
(E-mail: yamada@waseda.jp)

Abstract. This article deals with the mathematical analysis of the forest kinematic model. The model is described by a system of two ordinary differential equations and one parabolic differential equation with nonlinear degenerate diffusion. Three unknown functions represent the tree densities of young and old age classes and the density of seeds. We study the initial boundary value problem for this system with nonnegative initial functions satisfying suitable conditions. We will show the existence of a weak time-global solution which is uniformly bounded.

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