

Blow-up of solutions of a quasilinear parabolic equation

Ryuichi Suzuki

We consider nonnegative solutions of the Cauchy problem for quasilinear parabolic equations $u_t = \Delta u^m + f(u)$, where $m > 1$ and $f(\xi)$ is a positive function in $\xi > 0$ satisfying $f(0) = 0$ and a blow-up condition $\int_1^\infty 1/f(\xi) d\xi < \infty$. We investigate the conditions on $f(\xi)$ under which all nontrivial solutions blow up.