

On the threshold solutions for semilinear parabolic problems involving critical Sobolev exponent

Michinori Ishiwata

In this talk, we are concerned with the asymptotic behavior of solutions for semilinear parabolic equations involving critical Sobolev exponent. In the subcritical case, it is known that every global-in-time solution is globally bounded in L^∞ , thus tends to a stationary solution as time tends to infinity. The situation for the critical case is quite different. Indeed, it is known that there exists an initial data which gives a time global solution not bounded in L^∞ .

In this talk, we discuss the asymptotic profile of such an infinite time blow up solutions in the nonradial setting. We will also mention the structure of initial data space and asymptotics of L^∞ -norm of solutions.