

國立交通大學應用數學系 學術演講公告

主講人：許健明教授(中央研究院數學研究所)

講題：Some results on the finite point blow-up solutions of the fast diffusion equation

時間：107年2月27日(星期二) 下午 2:00 – 3:00

地點：(光復校區) 科學一館 223 室

茶會：當天下午 1:30 (科學一館 205 室)

Abstract

In this talk I will prove the existence and asymptotic large time behaviour of singular solutions of the fast diffusion equation $u_t = \Delta u^m$, $u > 0$, in $(\mathbb{R}^n \setminus \{0\}) \times (0, \infty)$ for any $0 < m < \frac{n-2}{n}$, $n \geq 3$. We will construct self-similar solutions of the fast diffusion equation in $(\mathbb{R}^n \setminus \{0\}) \times (0, \infty)$ with initial value $A|x|^{-\gamma}$ for some constant $\frac{2}{1-m} < \gamma < \frac{n-2}{m}$. When $\frac{2}{1-m} < \gamma < n$, we prove that if the initial data is some weighted L^1 perturbation of such self-similar singular solution, the singular solution of the fast diffusion equation will converge to the self-similar singular solution as time goes to infinity. This is joint work with Soojung Kim.

敬請公告 歡迎參加

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