

21世紀COEプログラム「物質階層融合科学の構築」

集中講義

物質階層融合科学特別講義A 1 (修)・物質階層融合科学特殊講義A (博)

談話会のご案内

日時 5月8日～12日

場所 数理科学記念館 (川井ホール)

講師 Professor Marek Fila

(Comenius University, Slovakia)

① 集中講義(5月9日～12日) 講義題目

Blow-up of solutions of semilinear parabolic equations

② 内 容

- 1 Sufficient conditions for blow-up, blow-up set
- 2 Rate of blow-up, blow-up profile
- 3 Complete blow-up, continuation beyond blow-up, immediate regularization after blow-up
- 4 Boundedness of global solutions, blow-up in infinite time

③ 必要な予備知識

(常, 偏)微分方程式, 関数解析の基礎知識

④ 5月8日(Mon) 談話会講演題目

Diffusion induced stabilization

⑤ 談話会 要旨

We discuss the differences in the behavior of solutions of reaction-diffusion systems and corresponding systems of ordinary differential equations. We give examples of ODEs for which finite-time blow-up occurs but all solutions remain bounded if we add diffusion.