

Intensive lectures for PDE

Blow up behavior of solutions to a semilinear heat equation I, II

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15:00 -16:10, 16:30-17:40

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Abstract: In this talk, I will consider the initial value problem of a semilinear heat equation with power nonlinearity. This equation is one of simplest models of nonlinear diffusion equations and there are a huge amount of works on this subject. In the first half of the talk, I will review some classical results related to (local) well-posedness of this problem and blow up solutions. In the second half of the talk, I will discuss the behavior of the blow up solutions near the singularity. In particular, I will focus on the behavior of the scale invariant Lebesgue norm. Application to self-similar blow up profiles will be also given.



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