课程总标题：

Spine decomposition for super-Brownian motion, skeleton decomposition for superprocess and their applications.

第一次报告小标题：

An introduction to superprocess: as the scaling limit of branching particle system

摘要：

Firstly we introduce the integral equation for branching Brownian motion(BBM), under some condition, we can get the scaling limit for a family of BBMs to super-Brownian motion. Also, similar argument also holds for general branching Markov process to superprocess. Then we introduce some properties and tools in superprocess.

第二次课小标题：

Spine decomposition for super-Brownian motion.

摘要：

In this talk, we introduce three martingales--additive martingale, truncated martingale and derivative martingale. Then two class of spine decomposition are discussed. Although the idea in the proof of the convergence for these martingales is quite similar to those in BBM or branching random walk(BRW), we may talk about some difficulties in

super-Brownian motion.

第三次课小标题：

Skeleton decomposition for superprocess.

摘要：

In this part, we talk about the skeleton decomposition for superprocess.

For applications, we use some known results from BBM or BRW to

prove some results in super-Brownian motion.