学术报告

报告题目： Mean-field super-brownian motions

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报告时间： 2023年5月5日, 15:30-16:30

报告地点： ZOOM会议 876 0592 8254 密码：2023

报告摘要： The mean field stochastic partial differential equation (SPDE) corresponding to a mean field super-Brownian motion (sBm) is obtained and studied. In this mean field sBm, the branching particle lifetime is allowed to depend upon the probabilitydistribution of the sBm itself, producing an SPDE whose space-time white noise coefficient has, in addition to the typical sBm square root, an extra factor that is a function of the probability law of the density of the mean field sBm. This novel mean field SPDE is thus motivated by population models where things like overcrowding and isolation can affect growth. A two step approximation method is employed to show the existence for this SPDE under general conditions. Then, mild moment conditions are imposed to get uniqueness. Finally, smoothness of the SPDE solution is established under a further simplifying condition.

报告人简介 : Yaozhong Hu got his Ph.D degree in1992 at University of Strasbourg under the supervision of P.A. Meyer. From 1993 to 1997 he visited University of Oslo, Unversity of North Carolina at Chapel Hill, University of California as Postdoc, Researcher Associate, and Visiting assistant Professor. From 1997 to 2017, he is an assistant, associated and full professor at University of Kansas. He moved to University of Alberta at Edmonton from 2017 as a centennial professor. His research focuses on stochastic analysis, Malliavin calculus, numerical simulation, and stochastic partial differential equations and application to quantum field theory and published about 170 referred papers.