概率论系列报告 Probability Seminar

报告题目(Title): Exponential ergodicity of branching

processes with immigration and competition

报告人(Speaker): 李培森 Peisen Li (BIT)

时间(Time): 2022/04/11 14:00-15:00

地点(Venue):

摘要(Abstract):

The stochastic process we studied is an extension of the models introduced by Pardoux (2016, Springer) and Berestycki et al.\ (2018, Probably. Theory Relat. Fields,) with an additional immigration structure. The process is constructed by the pathwise unique nonnegative solution to a stochastic equation driven by time-space $L\'{e}vy$ noises. The immigration and competition structures make it possible to obtain exponential convergence rates in weighted total variation distances to the non-degenerate stationary distribution for general branching mechanisms. The results apply in particular to all stable branching mechanisms. The proof of the exponential ergodicity is based on the construction of a Markov coupling of the process and the choice of a non-symmetric control function for the distance. This is a joint work with Zenghu Li, Jian Wang and Xiaowen Zhou.



Everyone is welcome.