随机数学研究中心学术报告

题 目：Statistical inference for mean-field supermarket queueing models

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时间：2024 年 5 月 20 日，16:00—17:00

地点：后主楼 1225

摘要： This is an on-going research with my collaborators. In 2022, to celebrate the publication of the 100th volume, Queueing Systems published a special issue containing 100 Views on Queues. I presented my suggested research in the area of statistical inference for mean-filed queueing models.

The idea of mean-field approximations originated from works by Curie (1895) and Weiss (1907) in the area of statistical physics. Since then, it has been developed into a very important approximation tool for describing a large number of interacting particles systems (IPS) for many important applications in various fields, including queueing theory.

Applications of mean-field approximations to queueing systems go back to Dobrushin and Sukhov (1976), in which the so-called supermarket models were considered . Research on statistical inference for mean-field models started only in recent years due to difficulties as stated in Della Maestra and Hoffmann (2021): (1) the required fine probabilistic tools were still in full development; and (2) the motivation for statistical inference is not obvious.

So far, according to our best knowledge, statistical inference studies on mean-field models are all for continuous state systems, and the study on discrete-state processes , say queueing models or jump processes, has not yet started. In this talk, we demonstrate, through the supermarket model, the feasibility of this suggested research topic.

This talk is based on the joint work with Ahmed Sid-Ali, Ioannis Lambadaris, Wei Sun.

欢迎参加!

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