

Colloquium

Branching Random Walks and the Coalescence Problem

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摘要：

Branching processes are stochastic processes that are often used to model the evolution of populations. They are also widely used in probability theory, biology (e.g., population genetics, epidemiology), and other fields. In this talk, we will introduce the most fundamental type of branching process, the Galton-Watson branching process, and review some classical limit theorems that describe the long-term behavior of populations. On the other hand, we will also discuss the coalescence problem, which provides us with a different perspective on investigating the history of the population. In addition, we will apply the results of the coalescence problem to explore the limiting behavior of the distribution of individuals' positions.

