Bernoullis Tafelrunde

Graduate Student Seminar

Thursday, 26 April 2018, 12:15-13:00
Seminarraum 00.003, Spiegelgasse 1

Thomas Hayder

Universität Basel

Percolation on the Erdös-Renyi model

Abstract

Given a random graph, how does the structure of the connected components look like? This is the central question in percolation theory. One of the most important structure properties of these random graphs is the size of the largest connected component.

After a short introduction of some random graph models and their applications in various sciences, I will focus on the Erdös-Renyi model. I will introduce the branching process, and give a short overview, how this process can be used to explore the connected components in the Erdös-Renyi model. As a result, we will see that the size of the largest connected component undergoes a phase transition.

Keywords

Percolation, random graph, Erdös-Renyi model,
branching process, phase transition