

Inn'formal Probability Seminar

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“Phase transition for the XY model on a percolation cluster”

Abstract:

In this talk we will discuss the properties of a spin system known as the XY model. One of the important results of this model is the existence of a rather specific two-dimensional phase transition known as the Berezinsky-Kosterlitz-Thouless (BKT) transition. From a mathematical point of view, it was proved by Fröhlich and Spencer in 1981 and has recently been the subject of renewed activity following the works of Lammers, van Engelenburg and Lis, and Aizenman, Harel, Peled and Shapiro. We will present the model and some of its properties. We will then address the following question: Does the BKT transition persist when the XY model is subjected to random disorder? And in particular, is it observed for the model placed on an infinite cluster in supercritical Bernoulli percolation? Joint work with Christophe Garban.

Tuesday | 21.05.2024 | 13:45
SR 609 | Civil Engineer Building