Speaker

Khaydar Nurligareev

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Title

Asymptotics for the probability of labeled objects to be irreducible

Abstract

There are a number of combinatorial structures that admit, in a broad sense, a notion of irreducibility, including connected graphs and surfaces, irreducible tournaments and indecomposable permutations. We are interested in the probability that a random labeled object is irreducible, as its size tends to infinity. We will show that for some classes of objects the asymptotics for these probabilities can be obtained in a common manner and that asymptotic coefficient have a combinatorial meaning. More precisely, it is so when the considered combinatorial class can be described as a set or a sequence of the corresponding irreducible class, and its counting sequence grows sufficiently fast. Moreover, we will show how to obtain the asymptotic probability that a random labeled object has a given number of irreducible components, and we will indicate the combinatorial meaning of the coefficients involved in the asymptotic expansions.

This is ongoing work joint with Thierry Monteil.