

Boğaziçi Math Seminar

Descriptive graph combinatorics and Borel distinguishing number

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Abstract:

In broadest sense, descriptive graph combinatorics is the study of "definable" graphs on Polish spaces that incorporates the descriptive set theoretic point of view into the graph-theoretic point of view. This is usually done by demanding various graph-theoretic objects such as edge relations, colorings, automorphisms to have topological/measure-theoretic properties such as being Borel, projective, continuous, closed and asking to what extent classical results of graph theory generalize to measurable setting. Over the last two decades, numerous interesting results have been proven which demonstrate that this point of view is more than a mere specialization that lead to fruitful ideas. In the first half of this talk, after recalling some basic descriptive set theoretic notions, we shall give a brief overview of some fundamental results in descriptive graph combinatorics. In the second half of this talk, we will cover some new results regarding Borel distinguishing numbers.

The results in the second half are from a joint ongoing work with Onur Bilge.

Date : Wednesday, April 9, 2025

Time: 13:30

Place: TB 130, Boğaziçi University