

Around the decomposability of Borel functions

Orazio Nicolosi

Università degli Studi di Torino
orazio.nicolosi@unito.it

Effective Descriptive Set Theory is traditionally developed in the context of separable metric spaces; I present in this talk an alternative approach, due to Alain Louveau, in the broader setting of second countable topological spaces. This allows us to extend the structure of continuous degrees (an extension of Turing degrees) and the Turing Jump in the context of separable metrizable spaces, extending also related key properties, such as the Posner-Robinson Theorem. Having this, we can reformulate an argument of Patrick Lutz presented in the paper *The Solecki Dichotomy and the Posner-Robinson theorem are almost equivalent*, to extend a generalization of the Solecki Dichotomy (with weak continuous reducibility) to all Borel functions between separable metrizable spaces.