

Università di Torino
Dipartimento di Matematica
via Carlo Alberto 10, Torino

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Analytic equivalence relations and bi-embeddability

The analysis of the structure of analytic equivalence relations (ER for short) under Borel-reducibility has been one of the most relevant subject in the recent history of Descriptive Set Theory. Among ERs, a special place is occupied by the isomorphism relation on countable models of a certain $L_{\omega_1, \omega}$ -sentence φ . However, isomorphism relations are just a special case, as there are many example of ERs which are even not Borel-reducible to an isomorphism relation. On the contrary, we will show in this talk that the bi-embeddability (resp. bi-homomorphism, bi-weak-homomorphism) relation is able to capture the whole complexity of the ER-structure: for every ER E there is an $L_{\omega_1, \omega}$ -sentence φ such that E is Borel-equivalent to bi-embeddability (resp. bi-homomorphism, bi-weak-homomorphism) on the collection of countable models of φ . This is joint work with Sy D. Friedman.