

Operator Algebras

Metric Scott analysis

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Back-and-forth equivalence relations have been an important tool in model theory and descriptive set theory since their advent in the fifties. They provide Borel approximations to the isomorphism relation that are useful in a variety settings and are particularly important in infinitary model theory. In this work, we extend the theory to metric structures and describe the connections with infinitary continuous logic. Many classical results have a continuous counterpart (for example, the existence of Scott rank, the Lopez–Escobar theorem, etc.) but also new features appear that have no analogue in the classical setting. The metric theory seems to be well-suited for applications to functional analysis. The talk will assume no familiarity with the classical theory or infinitary logic.

This is joint work with I. Ben Yaacov, M. Doucha, and A. Nies.