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Coarse Universality

The Bourgain index is a tool that can be used to show that if a separable Banach space contains isomorphic copies of all members of a class C then it must contain isomorphic copies of all separable Banach spaces. This can be applied, e.g., to the class R of separable reflexive spaces. Notably, the embedding of each member of R does not witness the universality of X. We investigate a natural coarse analogue of this index which can be used, e.g., to show that a separable metric space that contains coarse copies of all members in certain "small" classes of metric spaces C then X contains a coarse copy of c_0 and thus of all separable metric spaces.

This is joint work with F. Baudier, G. Lancien, and Th. Schlumprecht.