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Some Fraïssé Classes of Finite Integral Metric Spaces

Cameron asked for the classification of the connected graphs which are homogeneous as metric spaces in the graph metric. From Kechris, Pestov, Todorćević we know that the topological dynamics of the isometry group of such a homogeneous metric space is related to the Ramsey theory of the associated class of finite metric spaces (with an ordering), so one has also a second question to follow Cameron's. At this point I have a plausible conjecture for the solution to Cameron's original problem (in other words, a catalog of constructions). I will discuss the construction of the catalog, and the verification of the critical amalgamation property for structures in the catalog. I will also give the grounds for thinking that this catalog may be complete, or nearly so, including recent work of Amato and Macpherson. Further information is at <http://www.math.rutgers.edu/~cherlin/Paper/inprep.html> (under "Evolving").