SEMINARIUM UKŁADY DYNAMICZNE

Tytul: On Problem 32 from Rufus Bowen's list: classification of shift spaces

with specification

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Data: 6 X 2017

Rufus Bowen left a notebook containing 157 open problems and questions. Problem 32 on that list asks for a classification of shift spaces with the specification property. Unfortunately, there is no universally accepted agreement what does it mean "to classify" a family of mathematical objects and Bowen did not specify what he had in mind.

I will describe one of the most commonly popular ways of making the problem formal based on the language of Borel equivalence relations. Inside that framework I will explain a conjecture saying that (roughly speaking) there is no reasonable classification for shift spaces with specification. In particular, if the conjecture holds true, then no classification using a finite set of definable invariants is possible. This will solve the problem provided that Bowen would agree with the set-theoretic notion of "classification".