

The project examines typical properties that can be observed in discrete dynamic systems. The basic tool in this investigations is topology, a field of mathematics trying to describe the shapes of objects, and ergodic theory, trying to understand the statistical properties of evolution. Observations are therefore carried out based on the "topological lens", that is in terms of the so-called Baire's theorem. Broadly speaking, this theorem allows us to determine which dynamical systems are "significant" or "observable". From perspective of local dynamics, observability is understood as sets detectable using the Lebesgue measure (i.e. of positive measure). This is based on heuristic assumption that all phenomena that can be detected in physical experiments must be visible through this measure. This allows us to separate probable phenomena from those whose occurrence, although theoretically possible, is improbable in reality (in the sense of the above measure).