これまでの研究成果のまとめ(英訳)

  In the study of solution orbits of hyperbolic differential equations in discrete times, there is a study of Anosov diffeomorphisms or Axiom A diffeomorphisms. Those dynamical systems are not only the subject of study of structural stability but also the subject of ergodic theory since Ya. G. Sinai and R. Bowen showed the basic sets of Axiom A diffeomorphisms has Markov partitions. "Strange attractor" which has non integer Hausdorff dimension was found in basic sets of Axiom A diffeomorphisms like an automorphism of a solenoidal group. The concepts of "expansiveness" "pseudo orbit tracing property" (abbrev. POTP) "specification property" became important as topological properties of the orbits.

  In [3] the necessary and sufficient condition for an automorphism of a solenoidal group has expansiveness is given.

  In [1] the properties of the space of invariant measures which are shown by K. Sigmund under the condition of specification property are shown under the condition of weak specification property. In [5], most of the properties are still shown under the condition of almost weak specification.

  In [9], it is shown that every ergodic solenoidal group automorphism has almost weak specification property.

  In [4], it is shown that the set of homeomorphisms with POTP is dense in the space of homeomorphisms of the Cantor set onto itself.

  In [6], it is shown that an ergodic group automorphism on solenoidal group have OE-property. OE-Property is a weaker concept of POTP.

  In successive studies by Ya. G. Sinai, R. Bowen and K. Hiraide, it is shown that every expansive homeomorphism with POTP. on compact metric space has a Markov partition. In [8], "special pseudo orbit tracing property" (abbrev. SPOTP) is defined, and it is shown that an expansive homeomorphism on compact metric space has Markov partition if and only if it has SPOTP.