

TOPOLOGICAL K-SYSTEM, A THIRD APPROACH

ABSTRACT. We study topological analogue of Kolmogorov system in ergodic theory, namely uniform positive entropy (u.p.e.) of order n ($n \geq 2$) or u.p.e. of all orders. It turns out that u.p.e. of order n does not imply u.p.e. of order $n+1$ for each $n \geq 2$ and if a topological system admits an invariant K-measure, then it has u.p.e. of all orders. Localizing the notion of u.p.e. of order n , one defines topological entropy n -tuples (n-topo), and ergodic entropy n -tuples (n-ergo) for an invariant measure. We prove that for each $n \geq 2$ the set of all n-topo is the union of the set of n-ergo over all invariant measures. A characterization of u.p.e. of order n or u.p.e. of all orders connecting with interpolation set of positive density is given.

Applying the methods and results which we get in the paper, we could answer several open questions by Blanchard [], Host [], Glasner and Weiss [] concerning the natural of u.p.e. and c.p.e.. Also we show that u.p.e. of order 2 system is weakly disjoint from all transitive systems.