1099-37-145 Wen Huang (wenh@mail.ustc.edu.cn), Department of Mathematics, University of Science and Technology of China, Hefei, Anhui 230026, Peoples Rep of China, and Kening Lu\* (klu@math.byu.edu), Department of Mathematics, Brigham Young University, Provo, UT 84602. Entropy, Chaos and Weak horseshoe for Infinite Dimensional Random Dynamical Systems.

In this talk, we give an answer to the problem on the implication of positive entropy of a random dynamical system. We show that if a random dynamical system has a compact random invariant set such as random attractor with positive topological entropy, then the system is chaotic and has a weak horseshoe. As a corollary, we have the same conclusion for a deterministic dynamical system with a compact invariant set of positive topological entropy. The chaotic behavior we have here is due to the positive entropy, not the randomness of the system. (Received February 05, 2014)