

**Meeting:** 1001, Evanston, Illinois, SS 12A, Special Session on Iterated Function Systems and Analysis on Fractals

1001-37-150      **Ai-hua Fan\*** ([ai-hua.fan@u-picardie.fr](mailto:ai-hua.fan@u-picardie.fr)), LAMFA, UMR 6140 CNRS, Picardie University, 80039 Aimens, France. *Entropy spectrum of Banach valued Birkhoff ergodic average*. Preliminary report.

We consider Banach valued Birkhoff ergodic averages relative to a compact dynamical system and study its topological entropy spectrum. We prove a variational principle for saturated systems. To illustrate the result, we give applications to some problems in the number theory. This shows how to determine the maximal entropy measures. It is a joint work with Jacques Peyriere. (Received August 23, 2004)