1106-46-790   **Liming Ge*** (`liming@unh.edu`), Academy of Math and Systems Science, 55 ZhongGuanCun East Road, Beijing, 100190, Peoples Rep of China. *Topology of natural numbers and entropy of arithmetic functions.* Preliminary report.

Compactification of natural numbers is studied in association with their addition and multiplication. Gelfand-Naimark's theorem on abelian C*-algebras is applied to characterize the associated compact Hausdorff spaces. Entropy for arithmetic functions is introduced. Connections with number theory are explained. (Received September 06, 2014)