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)