

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**Comparison of human mobility patterns in different settings<sup>1</sup>** XI-ANGWEN WANG, MICHEL PLEIMLING, Virginia Tech — The development of location tracking technologies and big-data analysis capacities makes it possible to understand human mobility patterns at the global level through the analysis of huge datasets made available by open-data communities. Working with millions of empirical world-wide GPS trajectories, we examine users' mobility patterns in urban, rural and intermediate scenarios. Similar scaling properties are found in the analysis of several quantities, including end-to-end distance, radius of gyration, mean-squared displacement, and fixed-interval step-length. The impact of cities is elucidated by comparing mobility patterns in major cities worldwide.

<sup>1</sup>This work is in part supported by the US National Science Foundation through grant DMR-1205309.

Michel Pleimling  
Virginia Tech

Date submitted: 01 Nov 2015

Electronic form version 1.4