Abstract Submitted
for the SES13 Meeting of
The American Physical Society

Geolocation Analysis and Social Median Data Acquisition via Twitter Content CHRISTOPHER WRIGHT, LANCE HAHN, PHIL WOMBLE, KEITH ANDREW, Western Kentucky University — The rapidly expanding usage of social media websites such as Twitter, make is possible to use robust statistical inquires to construct a geolocation analysis of an individual account using the content of tweets. Within this context we expand upon the earlier research of Zhiyuan Cheng done in 2010 where he was able to detect the location of a Twitter user within 100 miles of their actual location 51% of the time. In 2010, Twitter had approximately 75 million unique users registered but by March 2013 Twitter had grown to nearly 500 million unique users. Here we gather Twitter data from a custom dataset and use specially designed Excel macros and search engines to calculate goelocation probabilities on the new user population. Our method centers on nearly unique word usage and semantic structures that have evolved for regional users as identified in detailed linguistic recognition studies. Improvements in efficiency, convergence and accuracy of social media geolocation information can significantly impact threat measures utilized by the Department of Homeland Security and U.S. Cyber Threat Task Force.

Keith Andrew
Western Kentucky University

Date submitted: 19 Sep 2013 Electronic form version 1.4