

Abstract Submitted  
for the APR14 Meeting of  
The American Physical Society

**Towards Scaling Relations in Relativistic Hydrodynamics and Gravity** JOHN WESTERNACHER-SCHNEIDER, Univ of Guelph, LUIS LEHNER, Perimeter Institute for Theoretical Physics — Turbulence is ubiquitous in hydrodynamics, and its study is dominated by statistical methods and dimensional arguments. Even so, analytic results tend to rely heavily on statistical symmetries. I will discuss some such results in non-relativistic turbulence, and possible extensions to the relativistic case. The 2+1 dimensionality of our setup allows for gaining insight about 3+1 gravity through the fluid/gravity duality. This work aims to further our understanding of the fluid side in its own right. This partly entails determining the robustness of some recently derived relativistic hydrodynamic scaling relations, which may have holographic applications.

John Westernacher-Schneider  
Univ of Guelph

Date submitted: 10 Jan 2014

Electronic form version 1.4