1057-35-317   **Philip C. Argyres*** (`philip.argyres@gmail.com`), Physics Department, POBox 210011, University of Cincinnati, Cincinnati, OH 45221-0011. *Onset of Instabilities in Hydrodynamic Flows via the AdS/CFT Correspondence.* Preliminary report.

We study the linear stability of the dragged string solution in the 5-dimensional AdS black brane space-time. This solution is dual to a laminar flow in the conformal relativistic fluid of strongly-coupled N=4 superYang-Mills theory in 4 dimensions at finite temperature. The linear stability problem is equivalent to a shooting problem for the quasi-normal modes of an associated ordinary differential equation on an interval with a regular singular point in the interior. We describe a limiting case where this shooting problem can be solved exactly. (Received January 25, 2010)