

**Meeting:** 1000, Albuquerque, New Mexico, SS 9A, Special Session on Mathematical Methods in Turbulence

1000-76-154      **Vakhtang Putkaradze\*** (putkarad@math.unm.edu), Dept. of Mathematics and Statistics,  
University of New Mexico, Humanities 415, Albuquerque, NM 87108, and **Keith Mertens** and  
**Peter Vorobieff**. *Braiding Patterns on an Inclined Plane*.

A jet of fluid flowing down a partially wetting inclined plane usually meanders, however, this meandering can be suppressed by maintaining a constant flow rate, leading to the emergence of a beautiful braided structure. Here we show this flow pattern to be theoretically explained as the result of the interplay between surface tension that tends to narrow the jet down and fluid inertia that drives the jet width to expand. These observations dispel certain misconceptions regarding the relationship of braiding and meandering which had persisted for more than 20 years. (Received August 23, 2004)