

1096-76-1983      **Zachary Bradshaw** and **Zoran Grujic\*** (zg7c@virginia.edu). *Turbulent transport in 3D incompressible plasma.*

The goal of this talk is to present a mathematical framework for rigorous study of turbulent transport in 3D incompressible plasma in physical space/scales of the flow. The range of scales in view extends from a relevant macro-scale down to the scale of proton gyro-radius (the fluid/continuum realm), and the method is based on a suitable dynamic multi-scale ensemble averaging of the local dynamics described by the full 3D MHD system. The method is illustrated with several rigorous results on turbulent transport both on the energy and enstrophy levels. (Received September 17, 2013)