

Abstract Submitted
for the DPP12 Meeting of
The American Physical Society

Investigating non-diffusive transport in drift wave turbulence D. OGATA, D.E. NEWMAN, Univ. of Alaska Fairbanks, R. SANCHEZ, Universidad Carlos III de Madrid, J.M. REYNOLDS-BARREDO, Univ. of Alaska Fairbanks/Universidad Carlos III de Madrid — This poster presents preliminary results on the competing characteristics of non-diffusive transport in drift wave turbulence. This work arises from previous observations of both supercritical transport in the presence of an evolving mean profile as well as subcritical transport in the presence of sheared flows. This investigation aims to quantify transport behaviors when ingredients for both supercritical transport and subcritical transport are included into a numerical model. The turbulence model used in this investigation is based on the two-field equations for drift wave turbulence in magnetized plasmas. Currently, the mean field has been implemented in an existing two-field model that couples the mean field to the evolution of perturbed density and potential. Parameters required to successfully observe supercritical transport are still being determined. Next steps include the addition of tracers to quantify non-diffusive transport behaviors and external shear flows for the subcritical component of radial transport. Transport behaviors will be discussed in terms of tracers' trajectories and the characterization of the transport based on these lagrangian trajectories.

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Date submitted: 20 Jul 2012

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