

1135-35-1050

Li Wang* (lwang46@buffalo.edu). *Singular shocks in particle laden flow.*

In this talk, we will consider singular shock dynamics for gravity-driven thin film flow with a suspension of particles down an incline. This flow is described by a system of conservation laws equipped with an equilibrium theory for particle settling and resuspension. Singular shock appears in the high particle concentration case that relates to the particle-rich ridge observed in the experiments. We analyze the formation of the singular shock as well as its local structure, and extend to the case with surface tension, an effect in the form of fourth order diffusion which regularizes the singular shock. (Received September 18, 2017)