

1143-35-156

Gino Biondini, Sitai Li* (sitaili@umich.edu), **Dionyssios Mantzavinos** and **Stefano Trillo**. *Universal behavior of modulationally unstable media with non-zero boundary conditions.*

This talk is divided into three parts. First, I will briefly describe the inverse scattering transform for the focusing nonlinear Schrodinger (NLS) equation with nonzero boundary conditions at infinity, and then I will present the long-time asymptotics of pure soliton solutions on the nonzero background. Second, I will describe in detail the properties of the asymptotic state of the modulationally unstable solutions of the NLS equation, including the number of oscillations and the local structure of the solution near each peak, showing in particular that in the long-time limit the solution tends to an ensemble of classical (i.e., sech-shaped) solutions of the NLS equation. Third, I will show that a similar asymptotic state is shared among a broad class of systems of NLS-type possessing modulational instability. (Received August 08, 2018)