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Stephanie A. Blanda* (blanda@lvc.edu). *Interfacial Waves Between Two Fluids With a Shear Flow.*

The generation of waves by wind has long been a topic of interest. However, it has only been in the past 50 years that significant progress has been made in understanding the effect of wind on water waves. Despite this progress, there is still much we do not understand about the interaction. Here, we focus on the previously ignored effect of viscosity on the overall growth rate of waves. We consider the coupled air/water system as a viscous 2-layer system. In this talk, we describe the derivation of the equations for the linear theory dealing with the interface of two immiscible, incompressible, viscous fluids under an unsteady base flow with a surface current and discuss the numerical methods we have used to solve the resulting 19×19 system of equations. In addition, we provide a numerical estimate for the growth rate of the waves, as well as energy estimates for the wind-wave system. (Received September 23, 2018)