Abstract Submitted
for the DFD13 Meeting of
The American Physical Society

Instabilities and nonlinear waves in two-layer film flowing down a vertical plane GOKCEN CEKIC, GRIGORY SISOEV, University of Birmingham, UK — The two-layer falling film flowing down a vertical plane is considered. The approximate long-wave model is investigated and the integral method is applied on this model. The linear stability of the steady flow is analyzed by the numerical method. To calculate the steady-traveling nonlinear waves we reformulate the problem as the dynamical system and find the bifurcating solutions. Examples of solutions at real-life values of the similarity parameters for a two-layer film are shown.

Gokcen Cekic
University of Birmingham, UK

Date submitted: 26 Jul 2013 Electronic form version 1.4