Solution to Stability Analysis in Stratified Liquid Film Flowing down an Inclined Heated Plate

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Abstract

The stability analysis in a stratified liquid film flowing down an inclined heated plate is investigated by using small perturbation method. The boundary value problem of the stability differential equation on small perturbation for general density distribution is derived. Then, the boundary value problem is solved and the solution to the problem is obtained for a special case. The result for non-stratified is agreement with the known one.

Figure: Stratified fluid film flowing down an inclines heated plate

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