FM2L_10103

XXI International Congress of Theoretical and Applied Mechanics
Warsaw, Poland, August 15–21, 2004

The Development (and Suppression) of Very Short-Scale Instabilities in Buoyant Boundary Layers

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This talk will present some new results on the development of algebraically growing disturbances in mixed forced-free convection boundary layer flows. Such disturbances have been conjectured as playing an important role in transition to turbulence in a wide variety of fluid flows. In the present case they are intimately linked with the development of streamwise grid-scale oscillations that arise in the numerical solution of the boundary-layer equations. Methods for the suppression of such instabilities will also be discussed.

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