

Distinctive features of vortical structures generation in separated channel flow behind a rib under transition to turbulence

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Abstract

© 2014, Pleiades Publishing, Ltd. Results of laboratory research and numerical simulation of 3D separated channel flow behind a semi-cylindrical spanwise rib in laminar and transitional to turbulence flow regimes are presented. Data on dynamics of flow structure and evolution of large-scale vortical structures generated in the obstacle wake zone have been obtained.

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Keywords

direct numerical simulation, flow visualization, laminar-turbulent transition, large-scale vortical structures, spanwise rib