On Streamwise structures in boundary layer under adverse pressure gradient on inclined plate

V. Uruba, author

Abstrak

ABSTRACT
The presented study is focused on experimental investigation of a boundary layer on a flat plate in an adverse pressure gradient. The flat plate is placed in a regular flow, the pressure gradient is generated by the plate inclination. The preceding studies deal with the structure of the wake behind the plate, the presented study concentrates on the flow structure close to the suction surface of the plate. The dynamical behavior of the flow structures is studied in details with respect to the topology in the streamwise direction. In spite of the fact that the time-mean flow field is close to 2D, more or less constant along the span, the instantaneous structures topology is fully 3D. Rather oblique structures are detected instead of those oriented in the streamwise direction. The patterns are travelling in the streamwise direction along the plate.