

Special Issue

Hypersonic Boundary-Layer Instability and Transition upon Complex Geometries

Message from the Guest Editor

Boundary-layer transition significantly impacts the aerodynamic and aerothermal design of hypersonic vehicles. Previous studies on hypersonic boundary-layer transition mainly focus on simple geometries, such as flat plate and sharp cones, and the underlying principle leading to transition is well-elaborated to some extent. On the contrary, the boundary-layer instability and transition mechanism upon complex geometries remains outstanding, preventing the further practical engineering application. This Special Issue focus on hypersonic instability and transition phenomenon on complex geometries, with special emphasis and interests on multi-modes interactions, surface curvatures, shock/wave interactions, flow control, etc. Therefore, the work on numerical simulation, experimental study as well as theoretical analysis all fall in the scope of this Special Issue. Hopefully, the content of this Special Issue might shed light on the practical application of hypersonic vehicles.

Guest Editor

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