

Abstract Submitted
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Triple deck solutions for supersonic flow past obstacles RAMESH YAPALPARVI, Florida State University, PIERRE-YVES LAGREE, Institut Jean Le Rond d'Alembert — This study is based on the numerical investigation of the boundary-layer separation of supersonic flow at high Reynolds number past obstacles (flat plate with a hump) based on the concept of viscous-inviscid interaction. The “triple-deck” model is used to describe the interaction process. We observe a separation region both ahead and behind the hump whereas a separation region is centered for the indents. In case of humps, at higher values of hump height, the pressure has both positive and negative value of “plateau” (observed up to now only upstream wedges). This novel feature has been compared with the “interacting boundary-layer” model which shows an excellent agreement.

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