Simulating Laminar Flow over a Flat Plate with an Isothermal Wall using SU2

Kedar R. Naik
Stanford University
knaik@stanford.edu

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Abstract

Several simulations of flat-plate flow were performed using SU2 at NASA Glenn from June to July of 2014. Here, one specific case has been investigated again, namely: laminar flow over a flat plate with an isothermal wall boundary condition. The temperature difference between the freestream and the surface is relatively small compared to the previous simulations. Moreover, a low freestream Mach number has been chosen in an attempt to minimize the effects of compressibility. Various quantities of interest from this new simulation have been plotted. When appropriate, computational results are compared with analytical solutions.