Due Tuesday April 30

Read Chapter 9

Problem 1 - Consider a zero pressure gradient laminar boundary layer on a flat plate with mass transfer at the wall. Let the vertical component of velocity at the wall be a power law of the form

$$V(x,0) = Mx^{\beta}$$

Identify a value of β that leads to a similarity solution. Numerically solve this case and show how the blowing affects the skin friction coefficient at the wall.

Problem 2 – Determine the displacement thickness, momentum thickness, H factor and friction coefficient of a Falkner-Skan boundary layer with $\beta = 2$.