

Sheet1

NACA 0012

U_mag = 135 m/s

tgt: find Alpha such that $-Cl^3/Cd^2$ is maximize
differently from the previous testcase, the quantity minimize here are derived from the corrected quantity, the case aim to test the robustness of the correction

description: pressure distribution is used to correct the course model
from the pressure distribution is possible to compute the max suction of the airfoil and the aero coefficient, the optimization aim to find the condition in which the fitness function is minimize without exceeding the Valarezo condition

- the course solver uses Hess-Smith to compute the pressure distribution P_{HS}
- the fine solver uses Xfoil in viscous configuration to compute P_{XF}
- the course method is corrected through a linear operator such that:

$$P_{HS_corr}(x) = P_{XF}(x_c) + Skf * (P_{HS}(x) - P_{HS}(x_c));$$

Optimization Cycle X = alpha

