

Problem C1.4

Laminar Boundary Layer on a Flat Plate

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Grids

A suite of grids in Gmsh format for the test case of a laminar boundary layer on a flat plate is here provided. All the meshes in the `grids_w.tar.gz` archive consist of quadrilateral elements. Six levels of grids with different number of elements are provided. Higher level grids have been obtained by doubling the number of elements in L_H , L_V and L_P , see Figure 1. Level grids are identified by the prefix `am` according to Table 1.

For each level the lengths L_H and L_V have been varied as shown in Table 2, while keeping fixed the number of degrees of freedom. The nodes along

m	n_e
0	140
1	560
2	2240
3	8960
4	35840
5	143360

Table 1: Grid levels, n_e is the number of elements

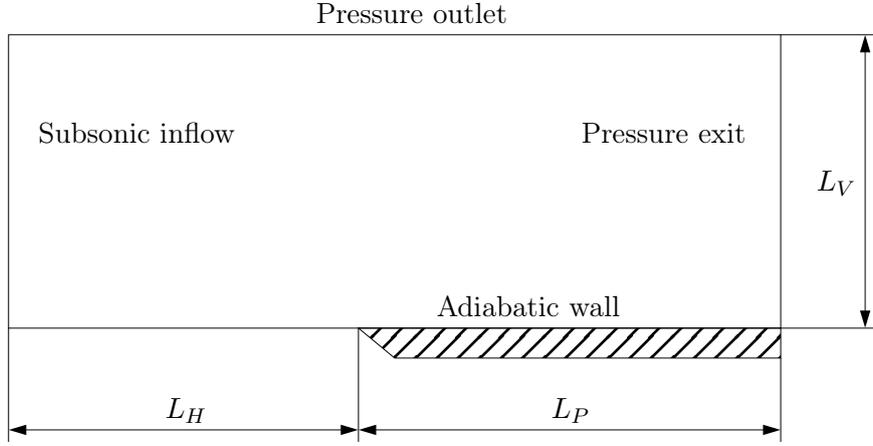


Figure 1: Computational domain for the flat plate boundary layer

h	L_H	v	L_V
05	0.5	1	1
075	0.75	15	1.5
1	1	2	2
125	1.25		

Table 2: Sets of L_H and L_V lengths

L_H , L_V and L_P are distributed according to a geometric progression. In the grids file names, `am-h-v.msh`, h and v correspond to L_H and L_V according to Table 2, *e.g.* for level 0 grid `a0-1-1` $L_H = 1$ and $L_V = 1$. All the relevant informations of the grids are reported in the corresponding `.info` files.