IMPERIAL

A modification of the mesh

Víctor Ballester
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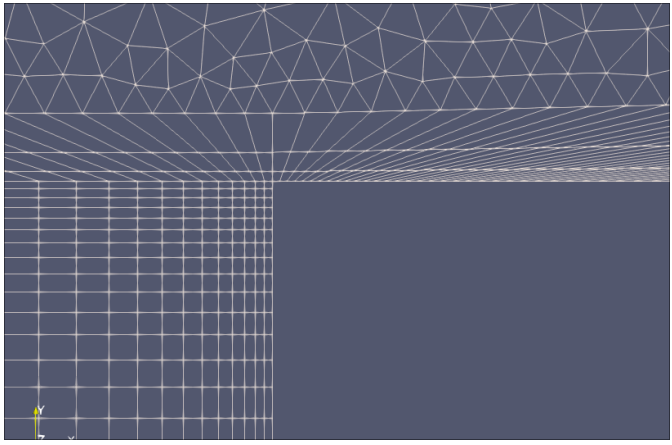
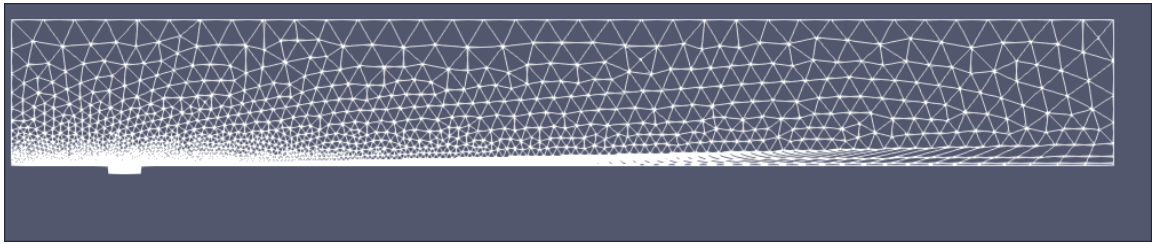
New domain

- Points on the quads edges at different geometric progressions.
- **Aim:** “homogenize” the CFL condition through the domain, in this case by increasing the size of the first triangles.
- So far:
  $\text{dt}_{\text{old}} \sim 0.0012 \implies \text{dt}_{\text{new}} \sim 0.003$



New domain

- Boundary layer of quads also changed. Now its height increases with x.
- **Aim 1:** take advantage of the efficiency of quads integration and mirror the boundary layer growth
- **Aim 2:** have similar aspect ratios sizes at the outflow to match triangles sizes (in order to avoid jumps). Because the mesh at the outflow is very sparse.



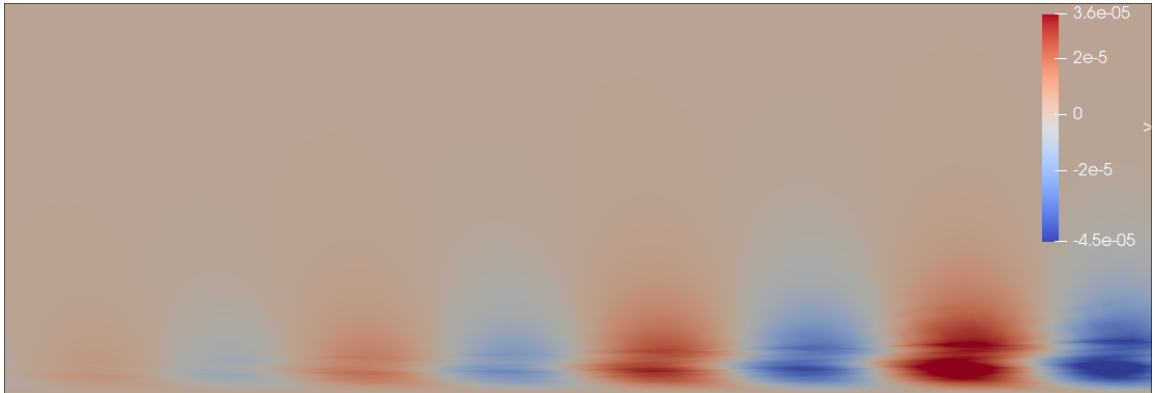
TS waves!!!

- New width considered, w $= 16.35\delta^*$, which doesn't have global instability. (Reminder: we already know that w $= 16.5\delta^*$ has an global instability).

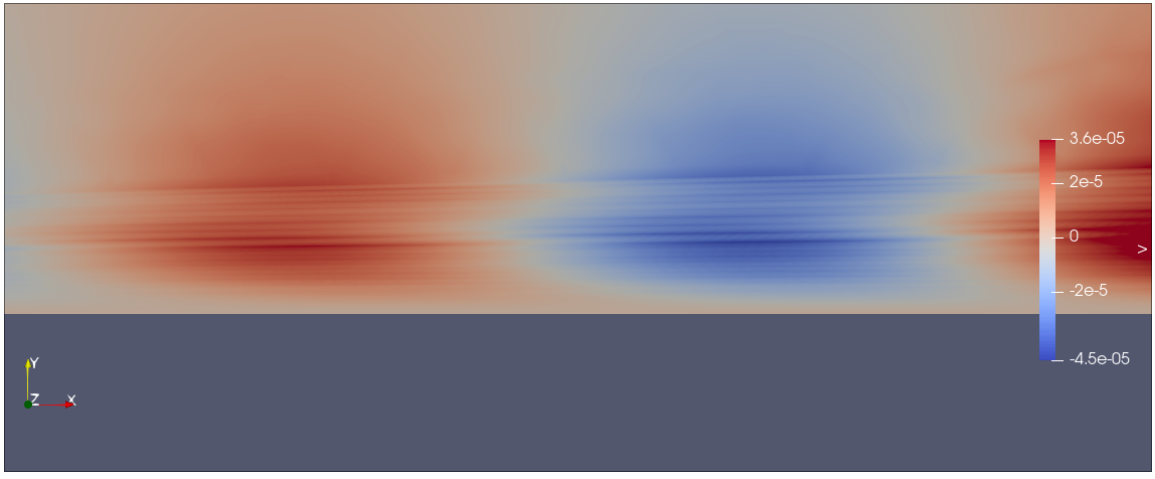
v component of the most unstable mode.

Some problems

- Sheared boundary layer. Probably because I am keeping the same polynomial order of approximation on the quads, but one of the dimensions is changing (stretching) **a lot** (see figures below).
- Post-processing improves something, but we need to modify the integration as well.



Some problems



Some problems