

IMPERIAL

TS mode!

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Summary

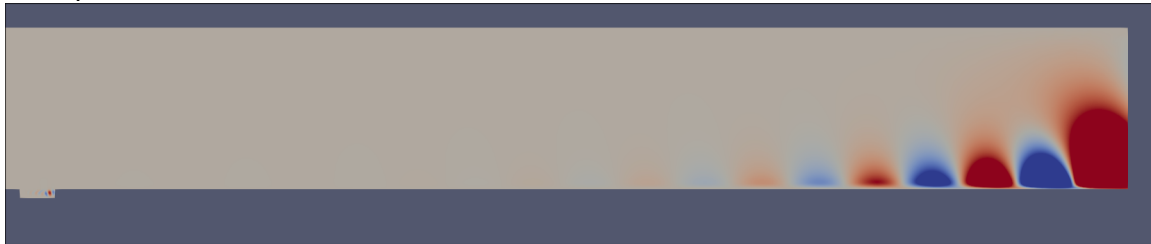
- I ran the case with $w = 16.5\delta^*$ (remember that $w = 16.35\delta^*$ is naturally stable as $t \rightarrow \infty$).
- So I needed to use SFD to get a good baseflow (accurate enough, up to residuals of 10^{-6}).
- Then, I ran the linearized solver to get the global modes. Interestingly, changing the number of steps for the Arnoldi iteration I got two different results.
 - With ‘few’ steps I got the TS mode with growth rate of -0.00543859 and frequency of ± 0.0260322 .
 - With more steps I got a greater-in-growth-rate mode, with growth rate of -0.00258415 and frequency of ± 0.00276843 . And I ‘showed’ this is the greatest growth rate.

TS mode

u component

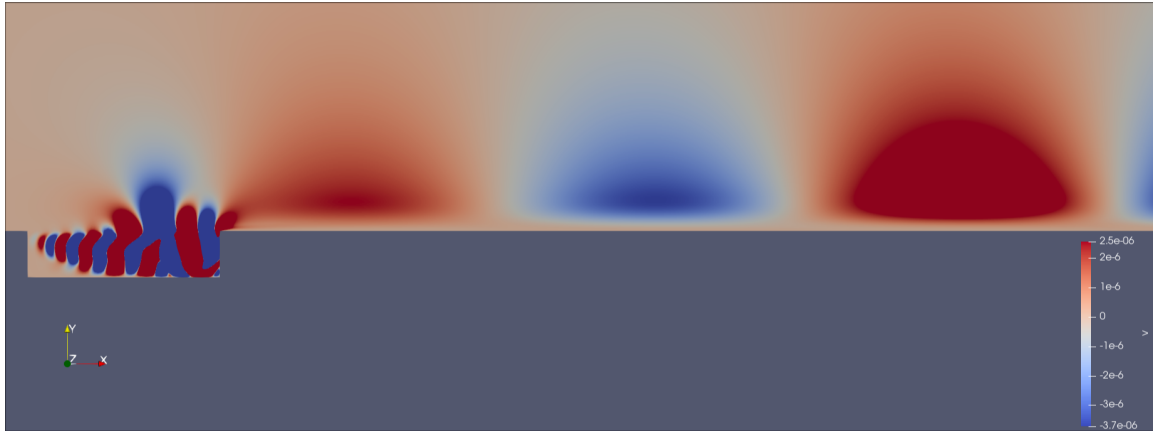


v component



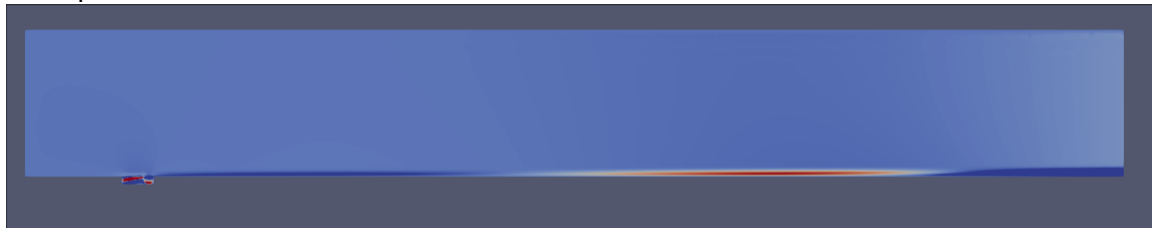
TS mode

v component



Huge Mode

u component



Questions

- What is destabilizing my system if every global mode is stable?