Introduction to Computational Fluid Dynamics using OpenFOAM and Octave

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(Session-20)

Instructions: Mon, Wed, Thu (5:30PM-6:30PM IST)
Query session: Sundays 8AM-8:30AM IST

Quick Recap

What Did We Discuss?

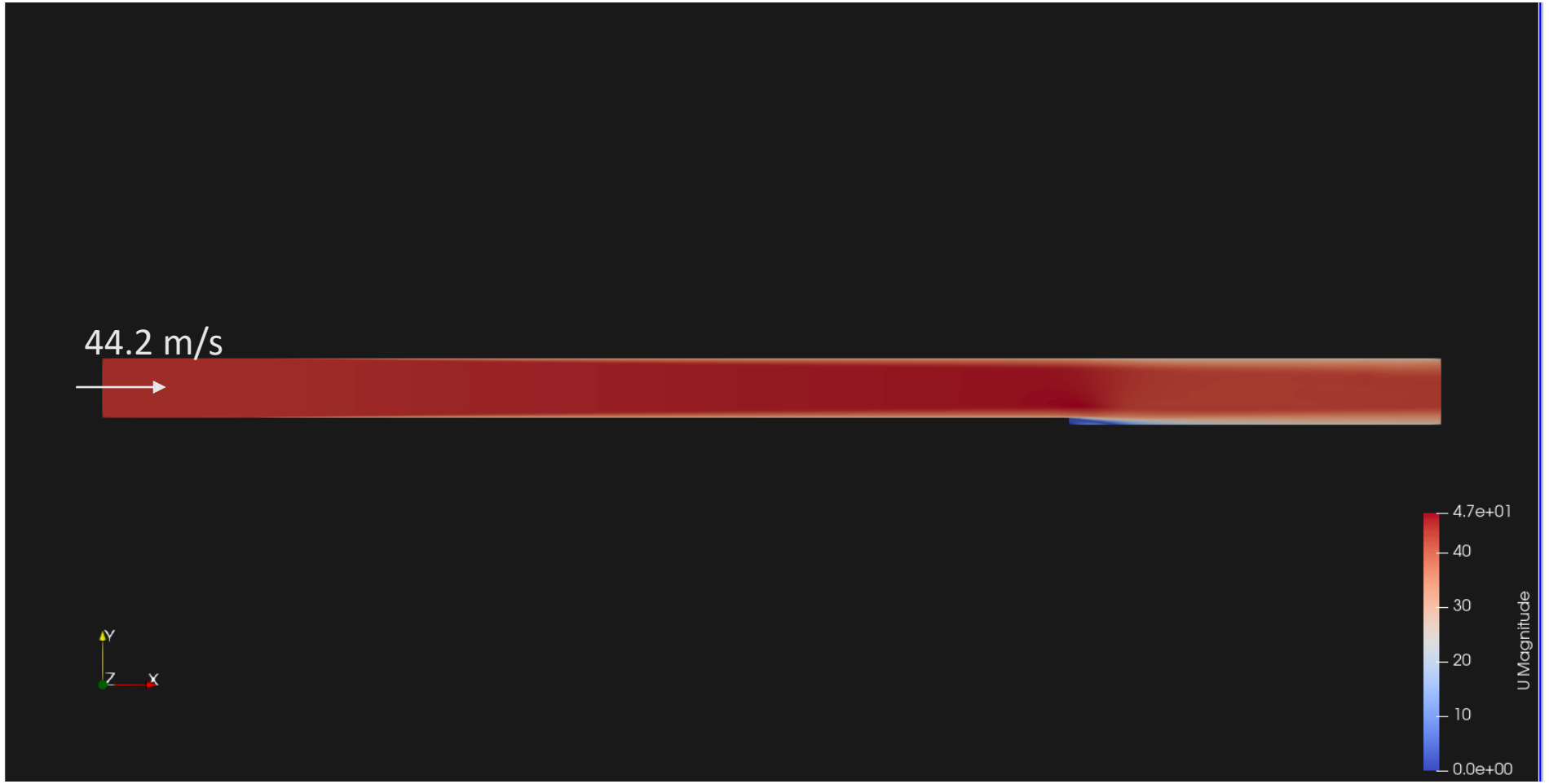
- Exercises
- OpenFOAM
  - Convection
  - Temperature diffusion
  - Lid driven cavity (icoFoam)
  - Dam break (interFoam)

Current Session

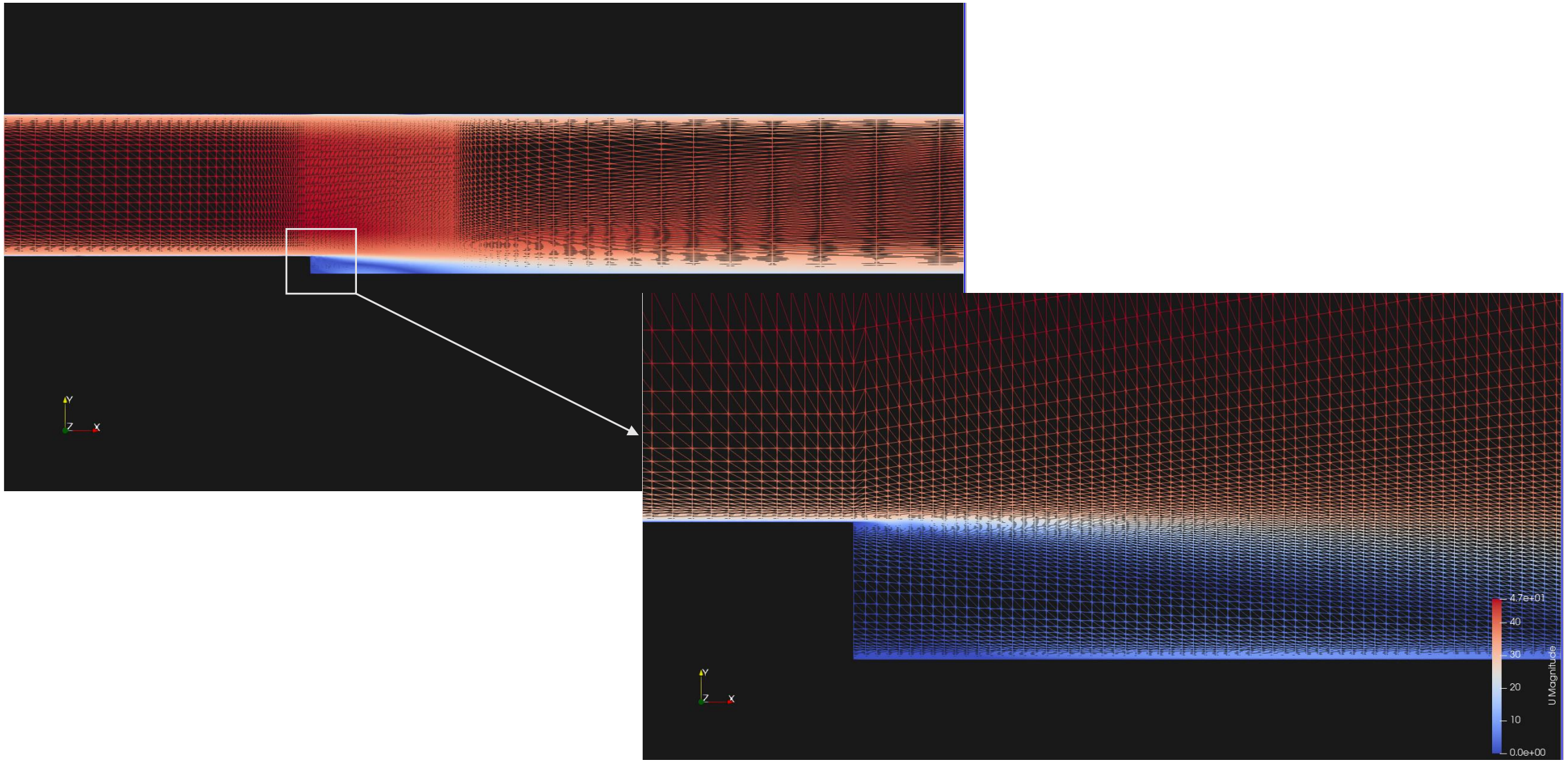
Overview

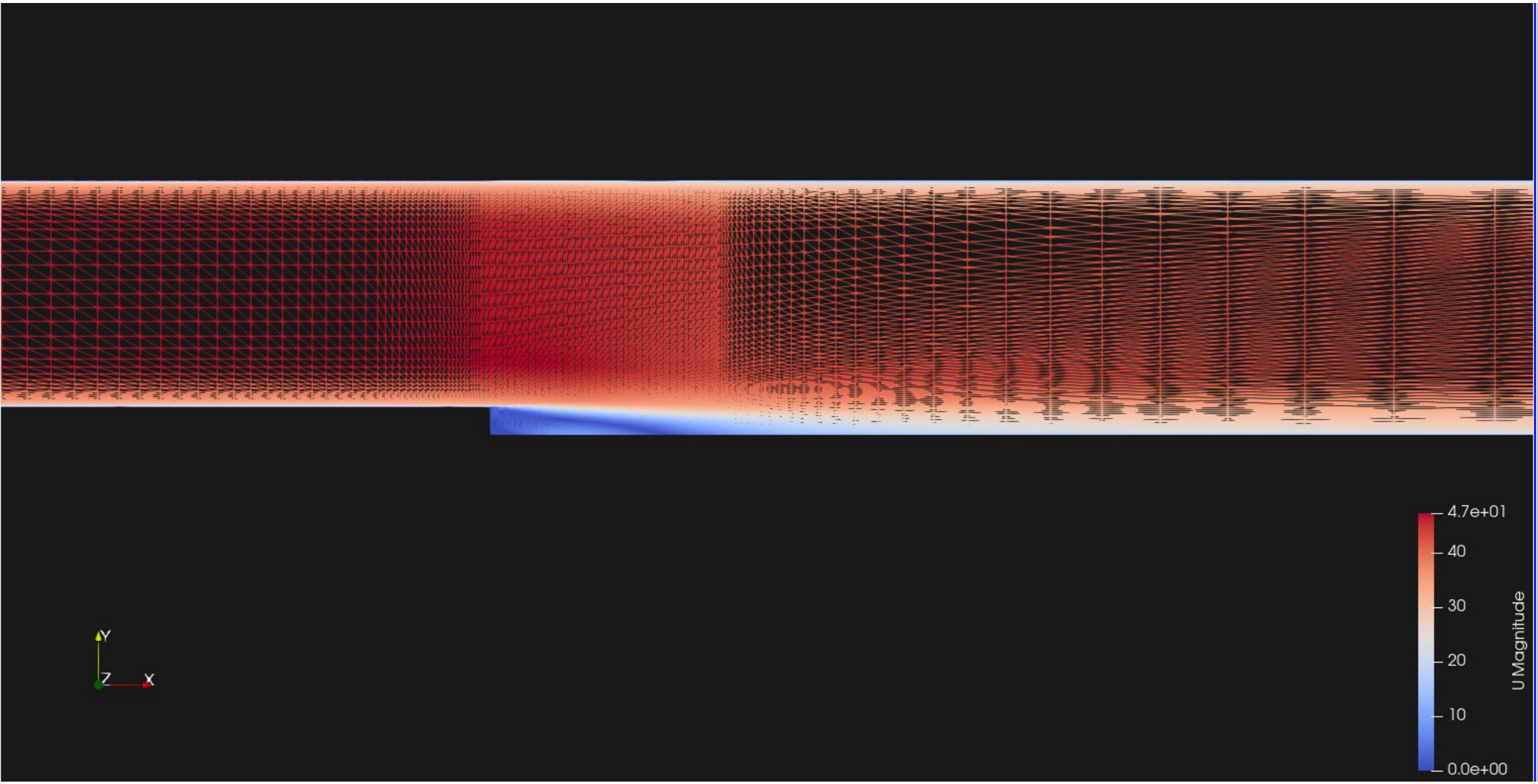
- **OpenFOAM**: Backward step problem
- Solver: Steady state solver simpleFoam

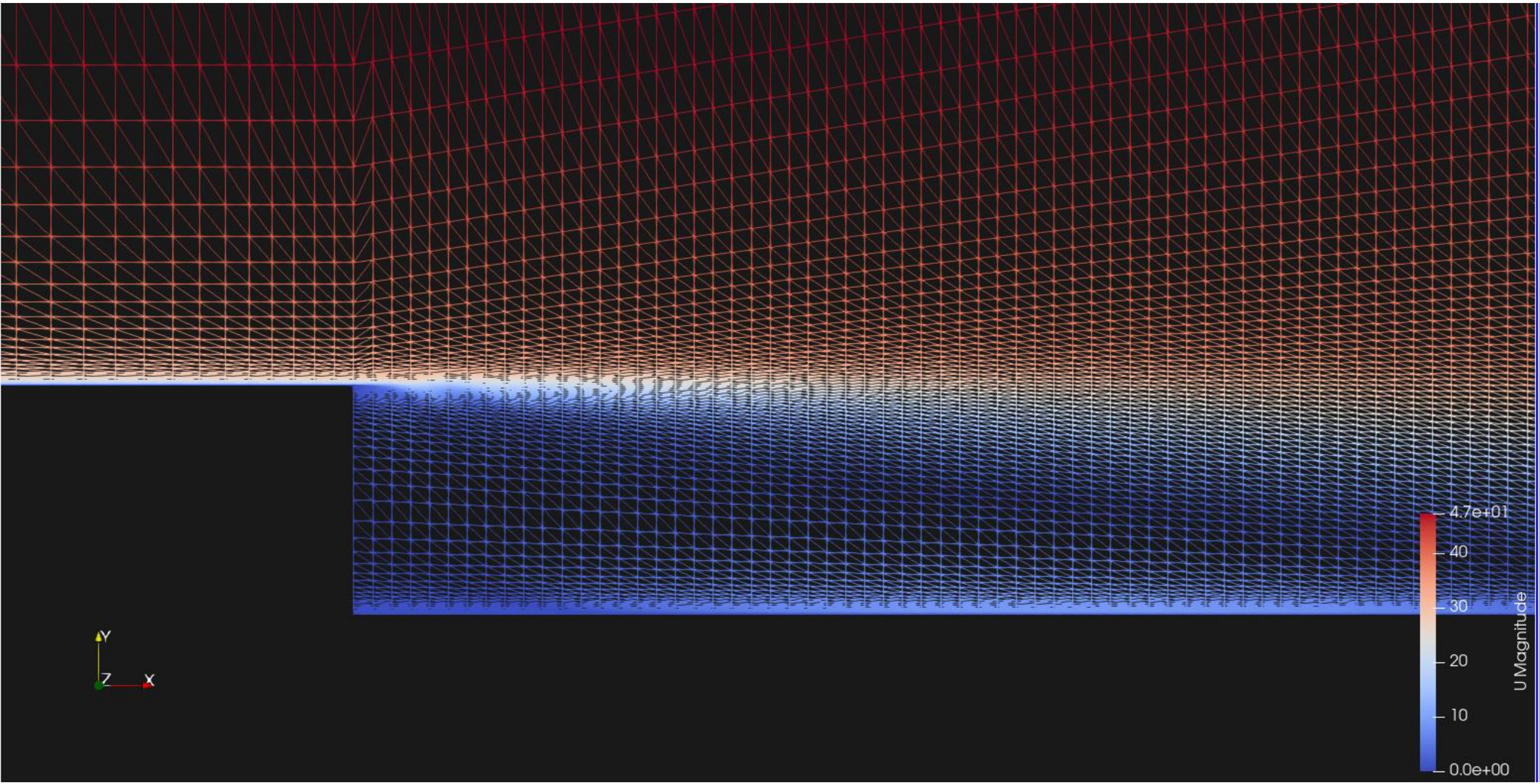
Sample Results



Sample Results




Y
Z
X
4.7e+01
40
30
20
10
0.0e+00
U Magnitude


4.7e+01
40
30
20
10
0.0e+00
U Magnitude
Y
Z
X

Governing equations

$$\nabla \cdot \boldsymbol{u} = 0$$

$$\nabla(\boldsymbol{uu}) = -\nabla p' + \nabla \cdot \boldsymbol{\sigma} + \boldsymbol{S}$$

Thank you