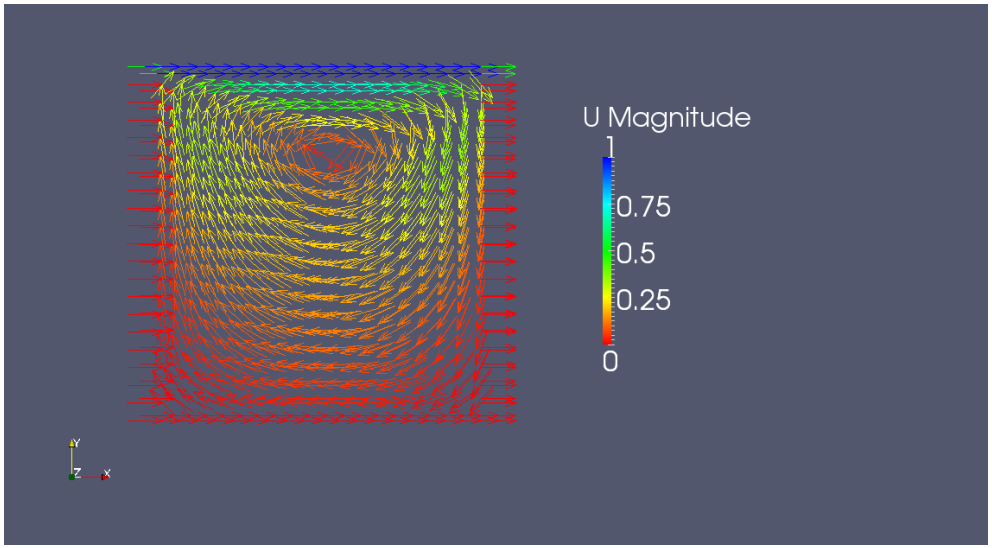
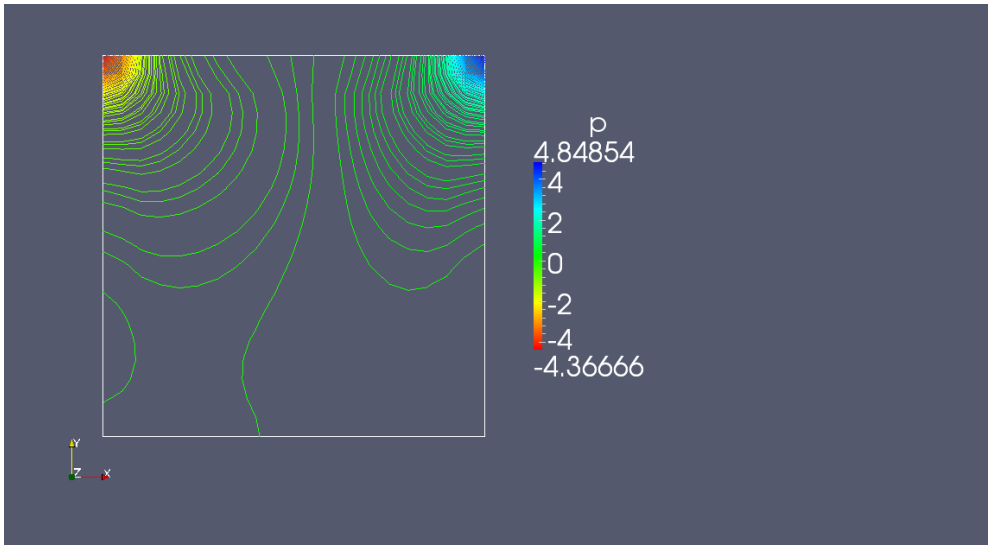
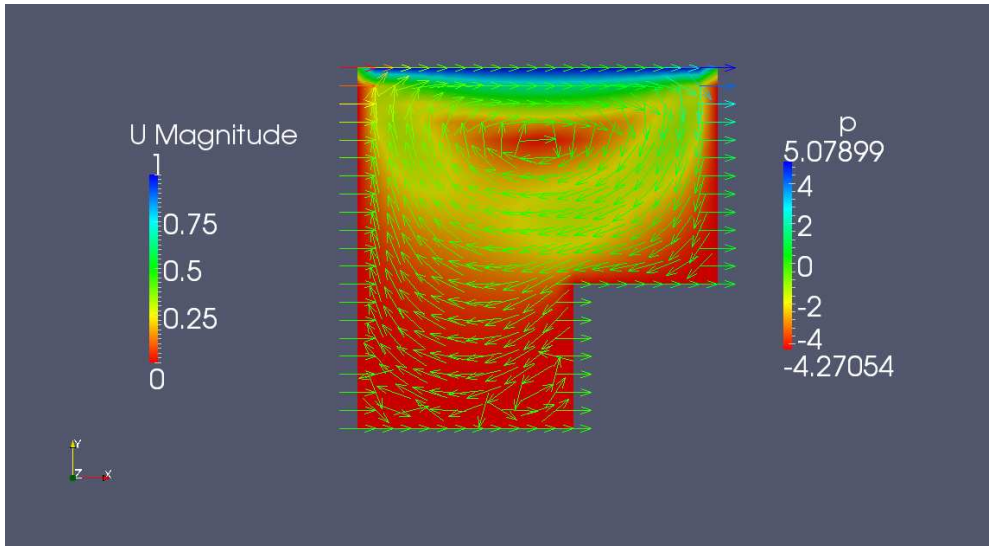
icoFoam - cavity





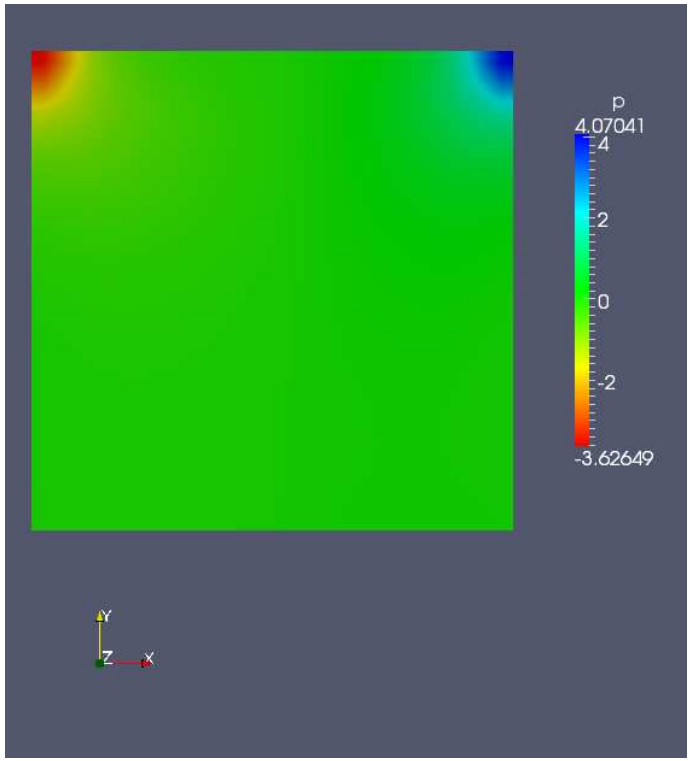
- Vectorfield of the velocity using *Glyph*. Glyphtype is set to 2D. The scale mode is set to off in the properties. This is seen at timestep 0.5 s
- Contourplot of the pressure using *Contour*. Datarange is set to 100 steps at timestep 0.5 s

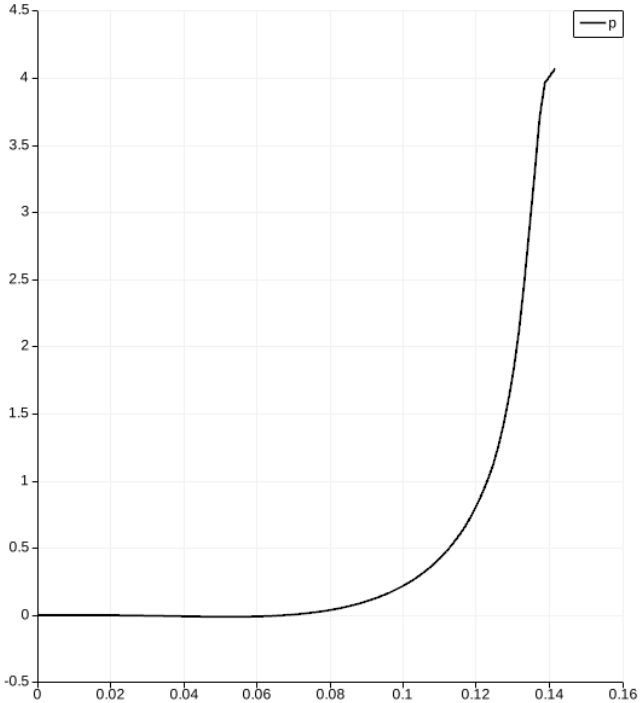
icoFoam - cavityClipped



- Surfaceplot of the velocity in the domain. The vectors are pressuregradients using $Glyph$, set to $2D\ glyph$. Both variables are plotted along with colorbars to see their magnitudes.

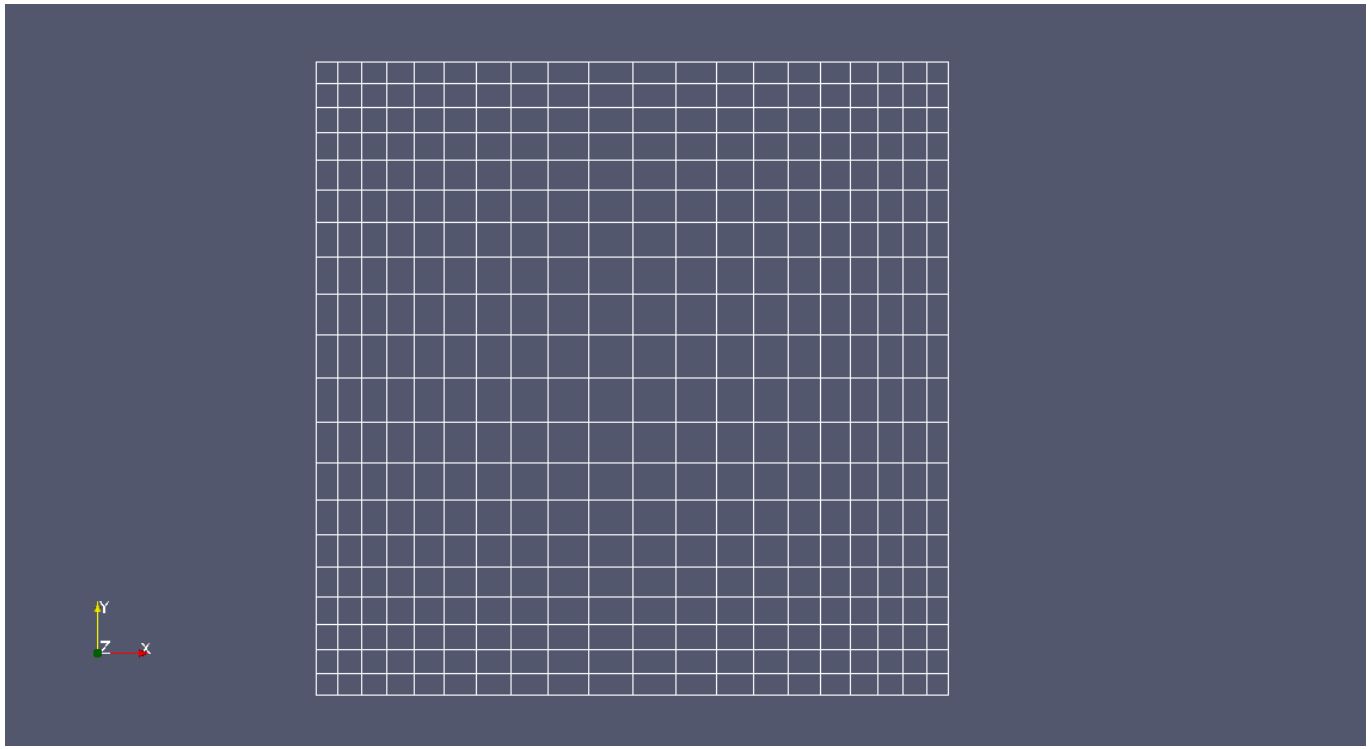
icoFoam - cavityFine





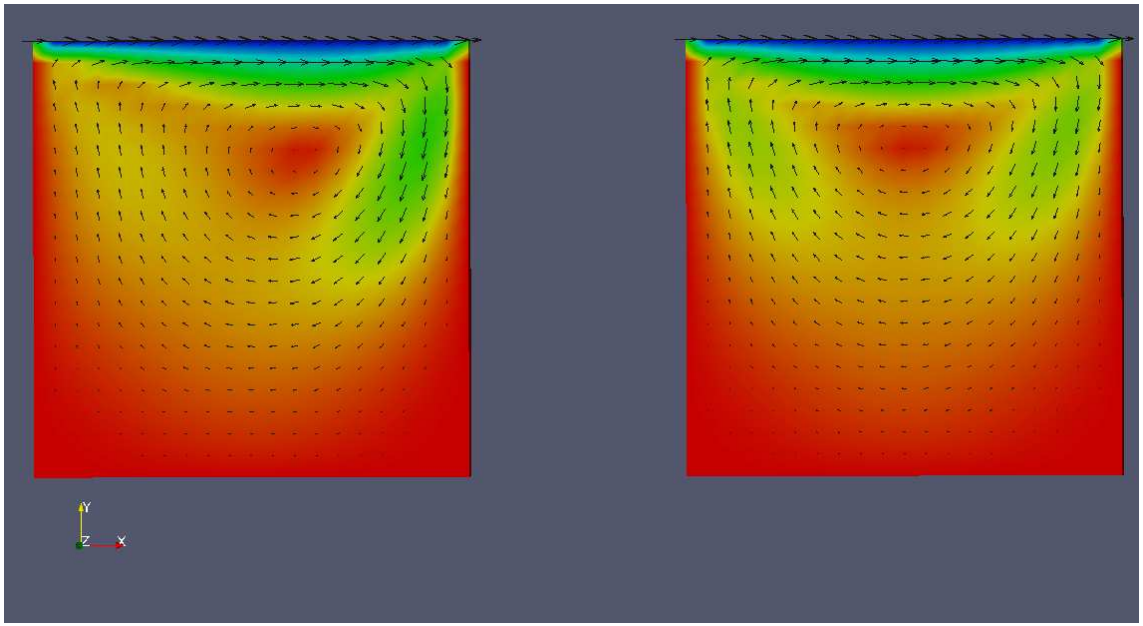
- This refinement of cavity uses four times as many cells as the original one.
- Here is a surfaceplot of the pressure. The graph shows the pressure along a diagonal line in the surfaceplot. This is done using *Filters/Alphabetical/Plot over line*. Compared to the colorbar the values seems correct.

icoFoam - cavityGrade



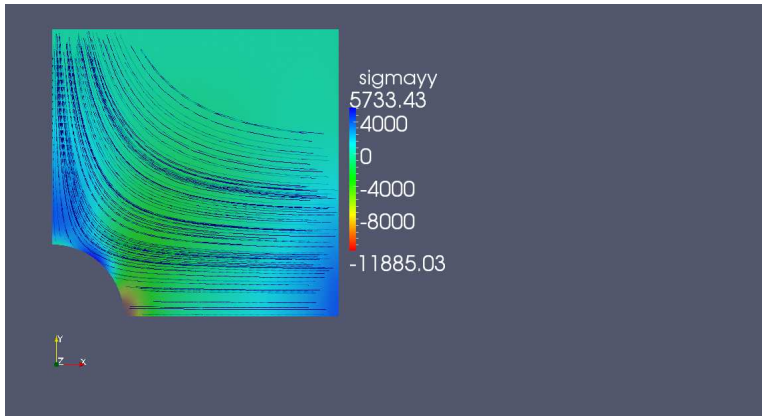
- This shows the graded mesh, simply plotting the wireframe of it.

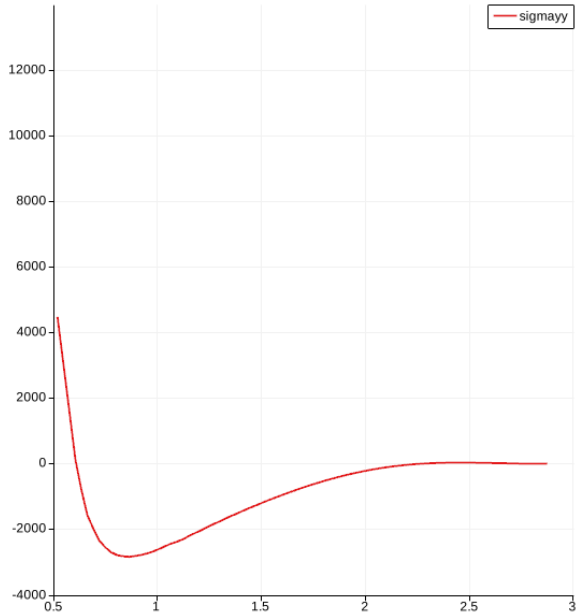
icoFoam - cavityHighRe



- High Reynolds number to the left, original to the right.
- Used the commando $touch$ to create an empty $cavity.OpenFOAM$ file. Then opened it in $ParaView$ along with the High Re one. Vectorfield of the velocities are plotted to see the difference between them.

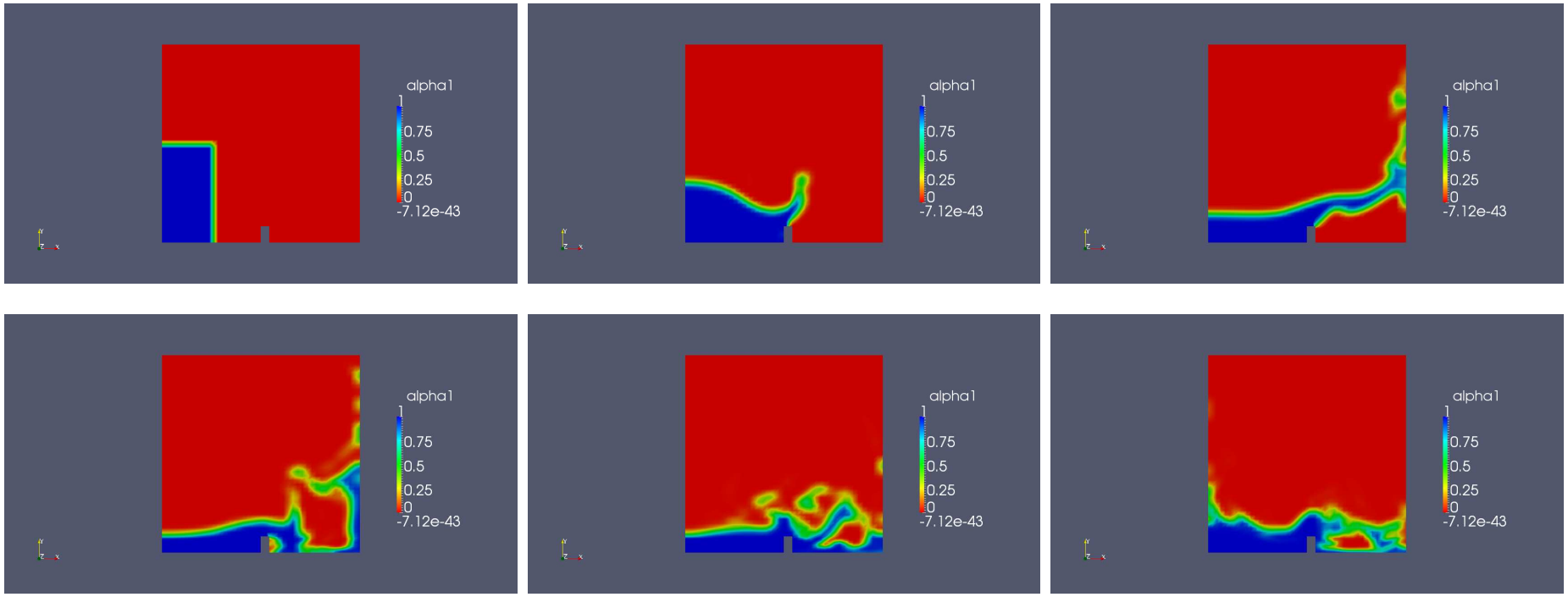
solidDisplacementFoam - plateHole





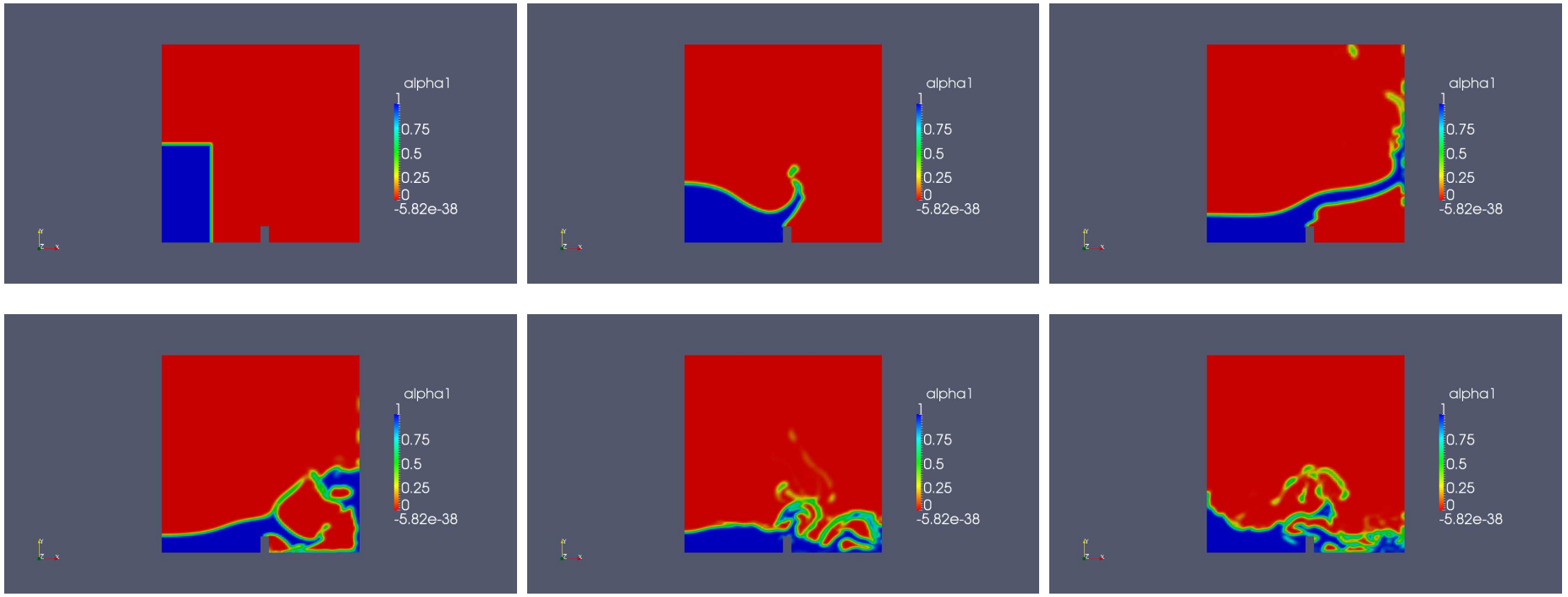
- Used $foamCalc$ to get all the components of σ. Then plotted the yy-component of σ, σ_{yy} as a surfaceplot. The streamlines are the displacement in the plate.
- The graph represents the yy-component of σ plotted along a line from the origin of the hole to the corner of the plate. This can be found under $Filters/Alphabetical/Plot\ over\ line$.

interFoam - damBreak



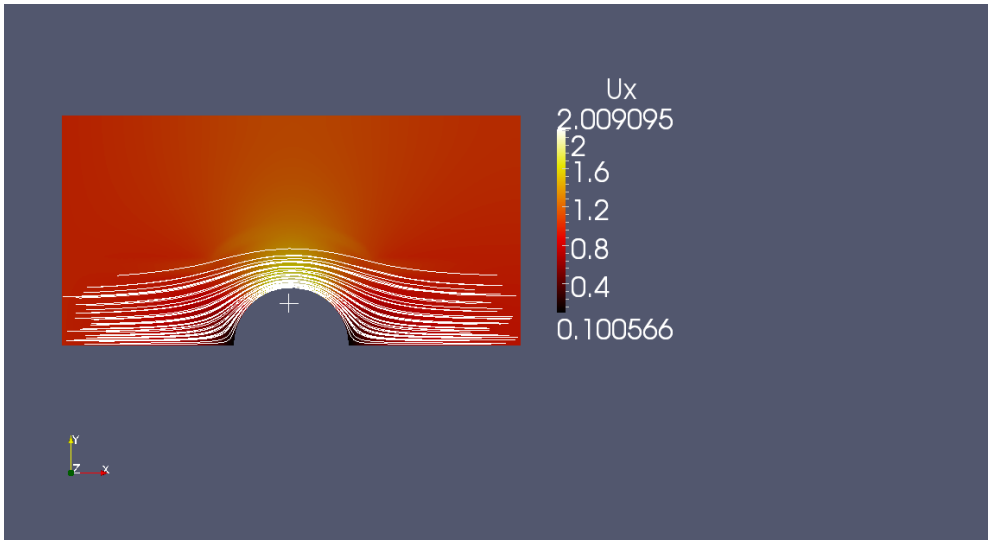
- These are surfaceplots of α. Blue is water and red is the atmosphere.
- The timestep is 0 at the upper left, then plotted every 0.2 to the endtime at 1.

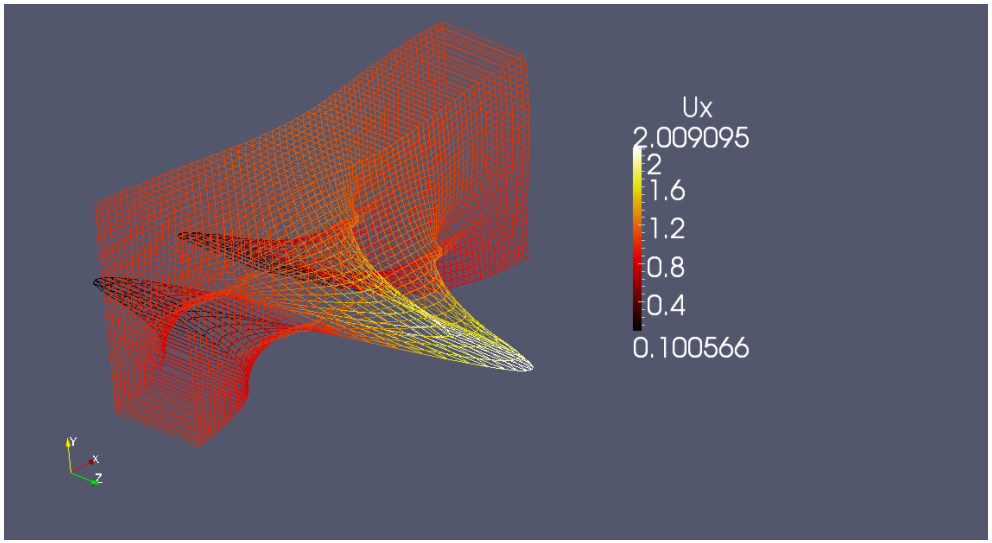
interFoam - damBreakFine



- These are surfaceplots of α. The timestep is 0 at the upper left, then plotted every 0.2 to the endtime at 1.
- It can clearly be seen that a lot of new information can be seen in this refined mesh compared to damBreak.

potentialFoam - cylinder

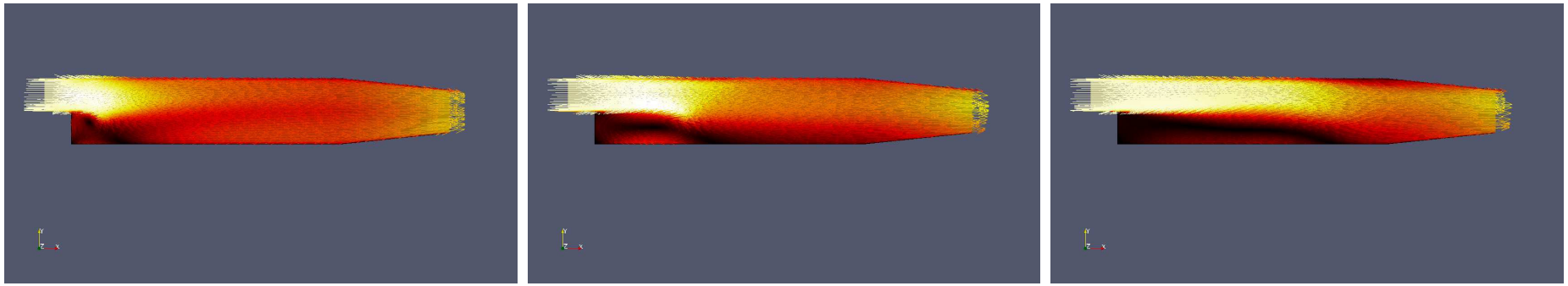




- The picture to the left shows a surfaceplot of the x-component of the velocity. First the commando $foamCalc\ components\ U$ was used to get U_x and U_y. There are also streamlines of U_x present.

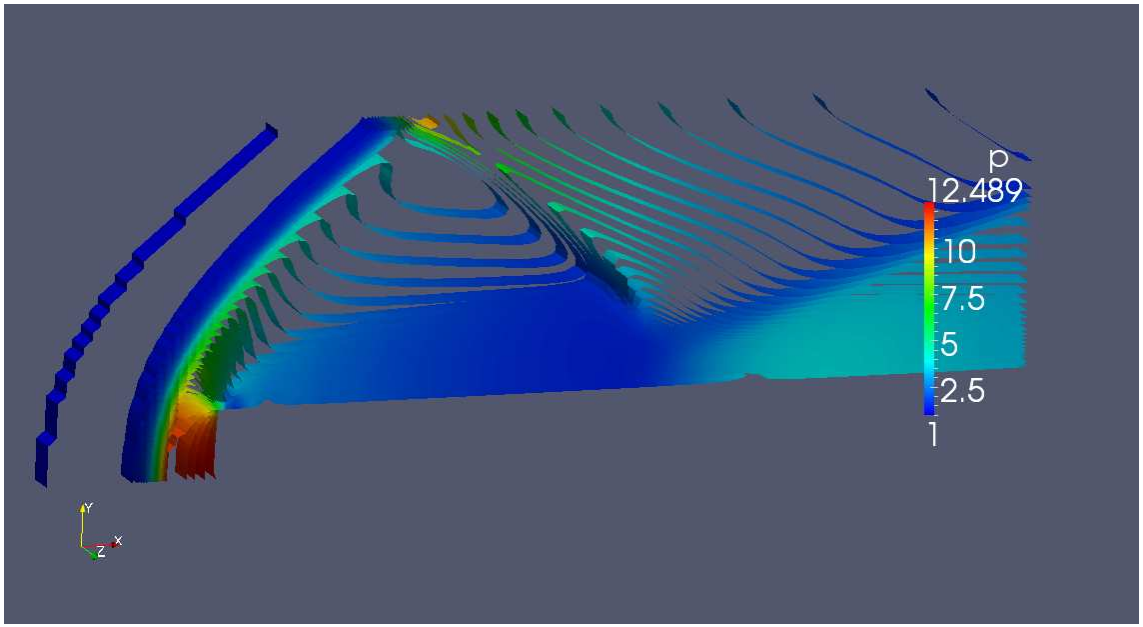
- The right picture shows the filter, $warp\ by\ scalar$. It is also representing U_x with a scaling factor of 2. It then uses a wireframe approach to see through the mesh.

simpleFoam - pitzDaily



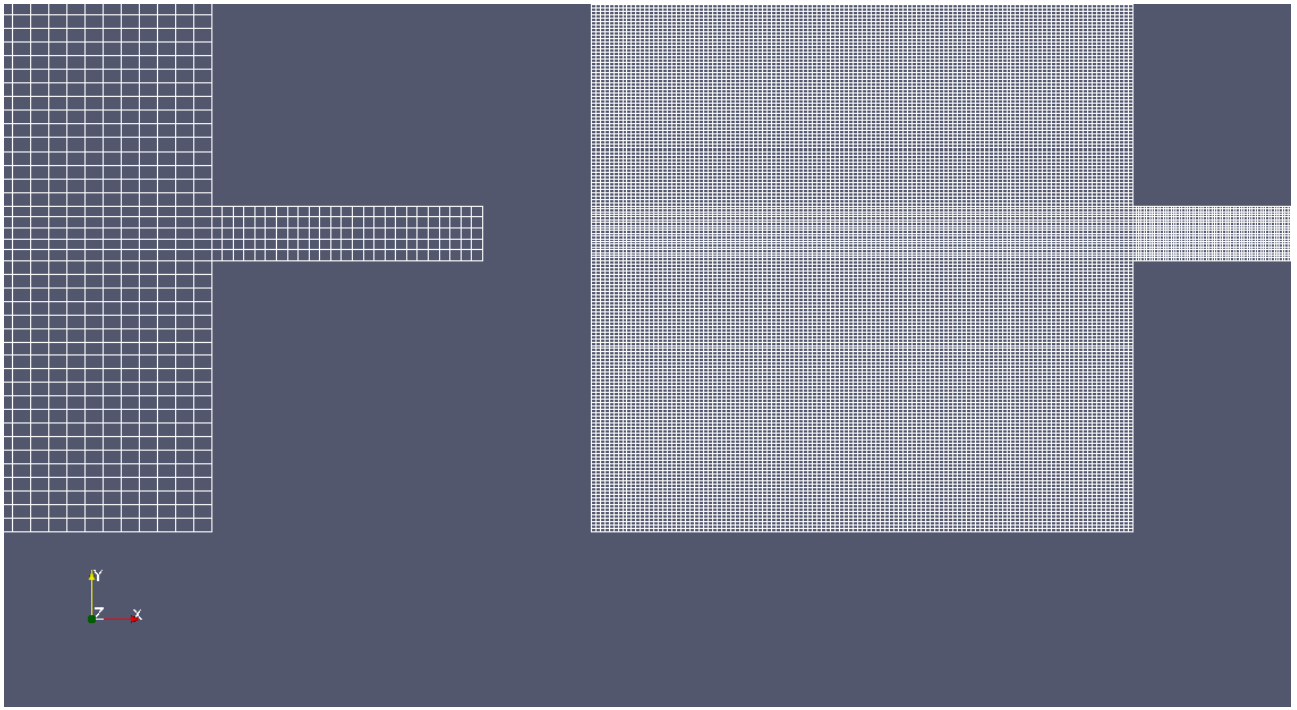
- Here the velocityfield is plotted along with the vectors using $Glyph$. Starting from timestep 50s, 200s and 400s. Interresting is the recirculation region in the corner that is moving towards the exit.

sonicFoam - forwardStep

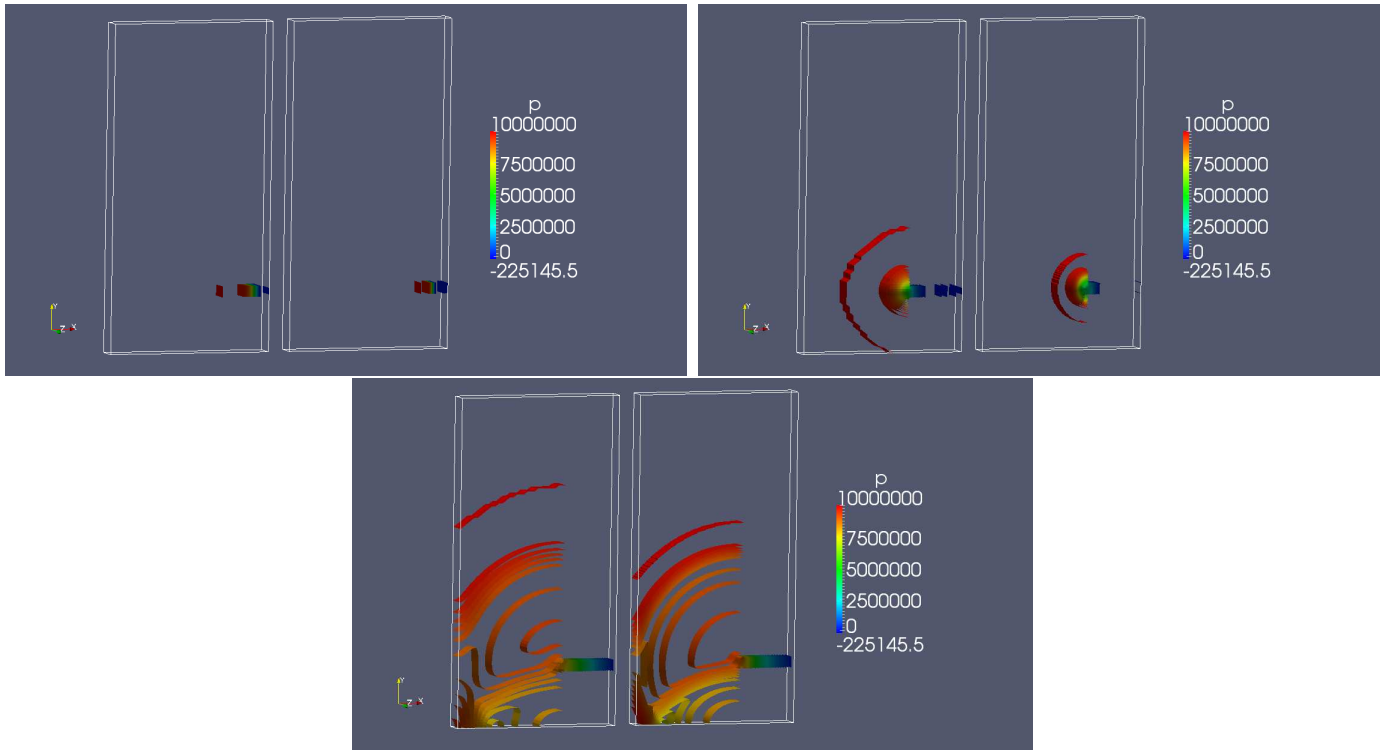


- A plot of the pressurecontours are made using *Contour*. Datarange is set to 50 in properties to be able to see the shocks.

sonicLiquidFoam - decompressionTank/decompressionTankFine

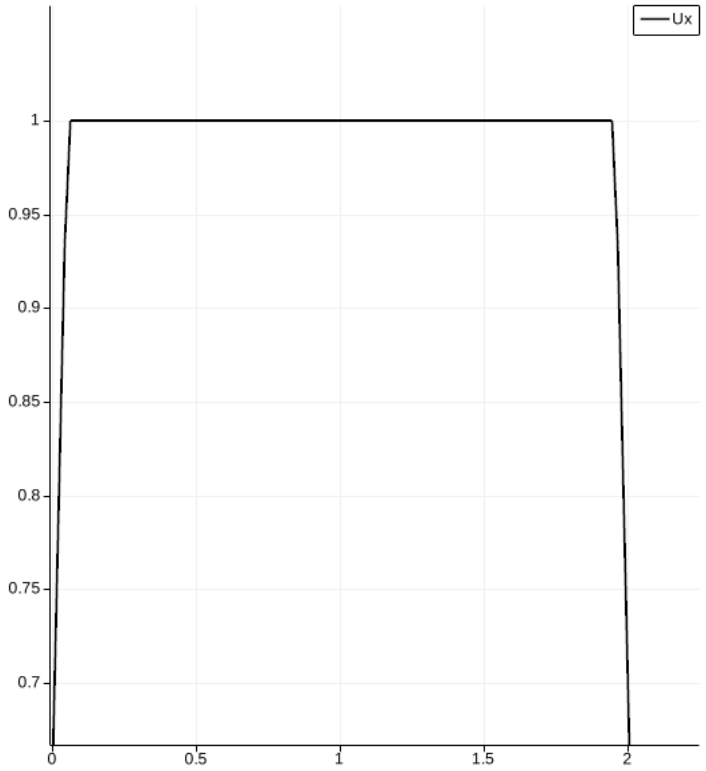


- Here is a figure that shows the difference between the two meshes.



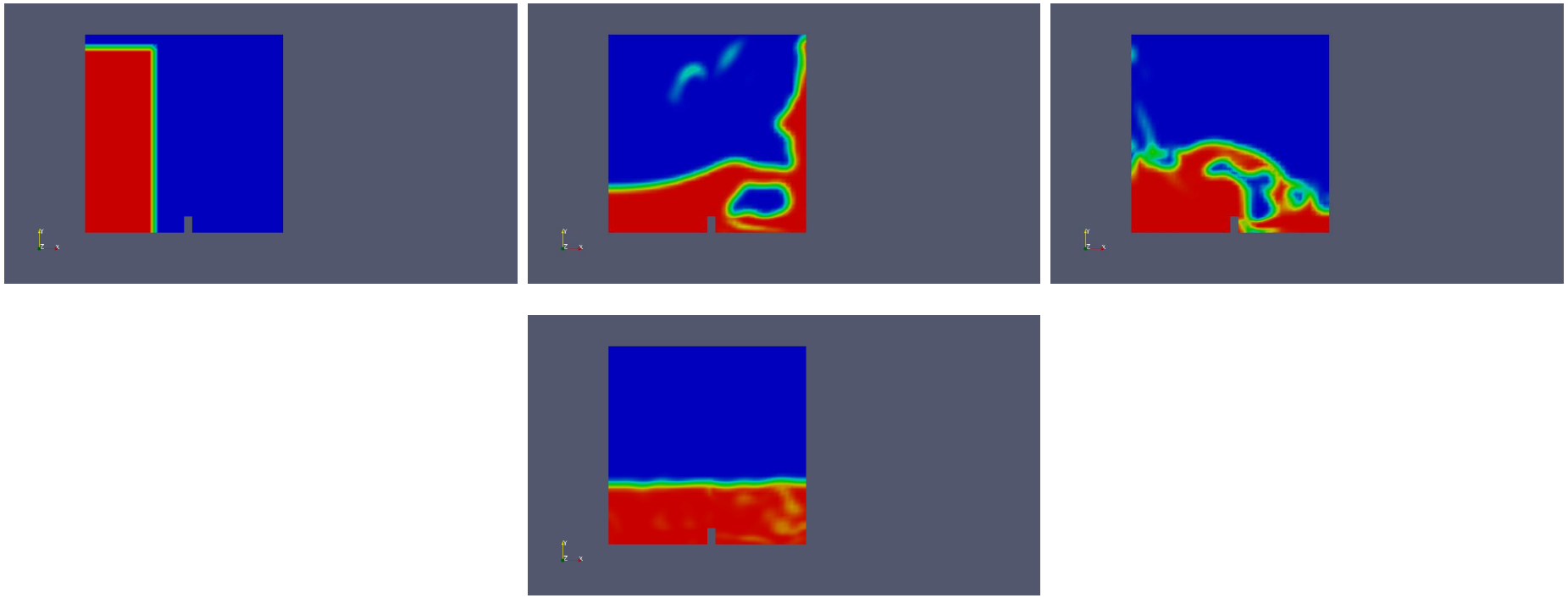
- Here are contourplots of the pressure along the tank using $Contour$. The first is at timestep $1e-5$, the middle at $4e-5$ and the last is at $1e-4$. The fine mesh was implemented by opening a $OpenFOAM$ file that was previously created in the terminal window using $touch$.

mhdFoam - hartmann



- This is a plot of the x-component of the velocity, U_x across the y-direction. The velocity profile is taken at the entrance at the last timestep. This is done using *Filters/Alphabetical/Plot over line*.

interFoam - damBreak(modified)



- This is a modified case of damBreak. The α phase of the water has been changed in the file $system/setFieldsDict$ from $(0\ 0\ -1)\ (0.1461\ 0.292\ 1)$ to $(0\ 0\ -1)\ (0.2\ 0.55\ 1)$. Also the number of iterations in has been changed in $system/controlDict$ from $endtime\ 1$ to $endtime\ 5$.