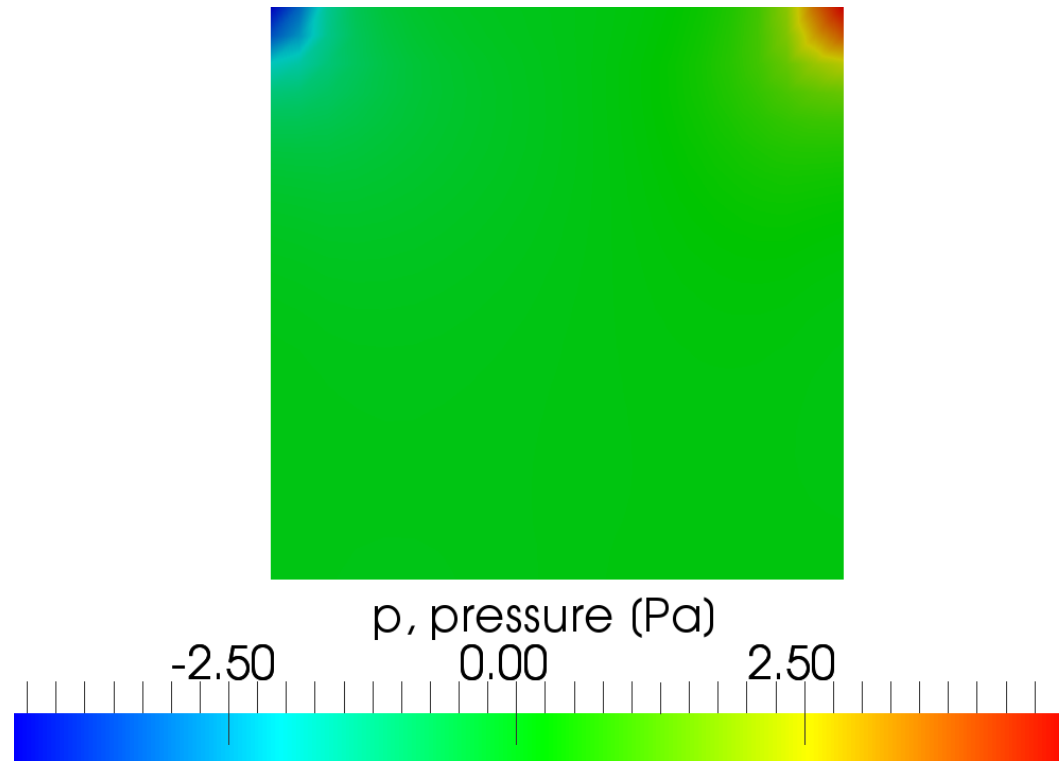
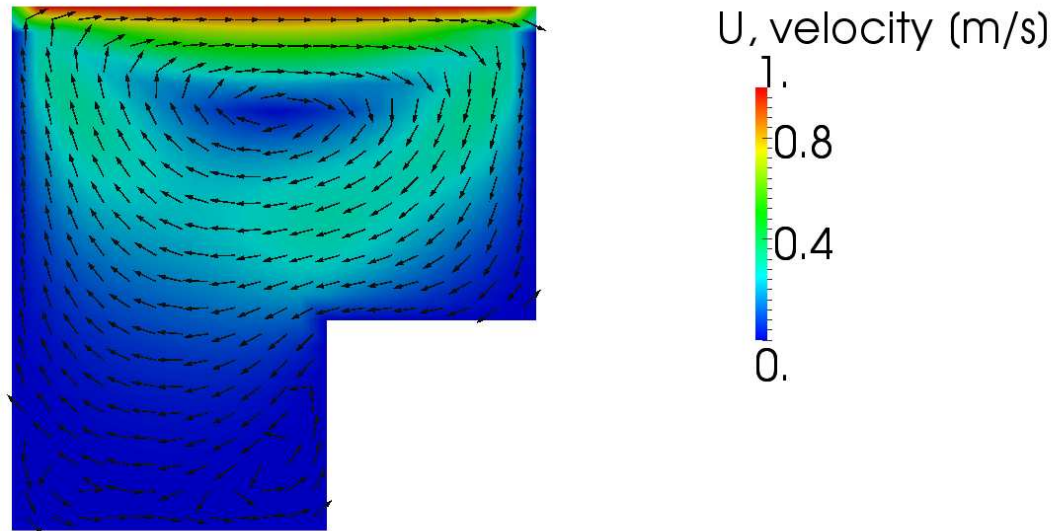


Cavity



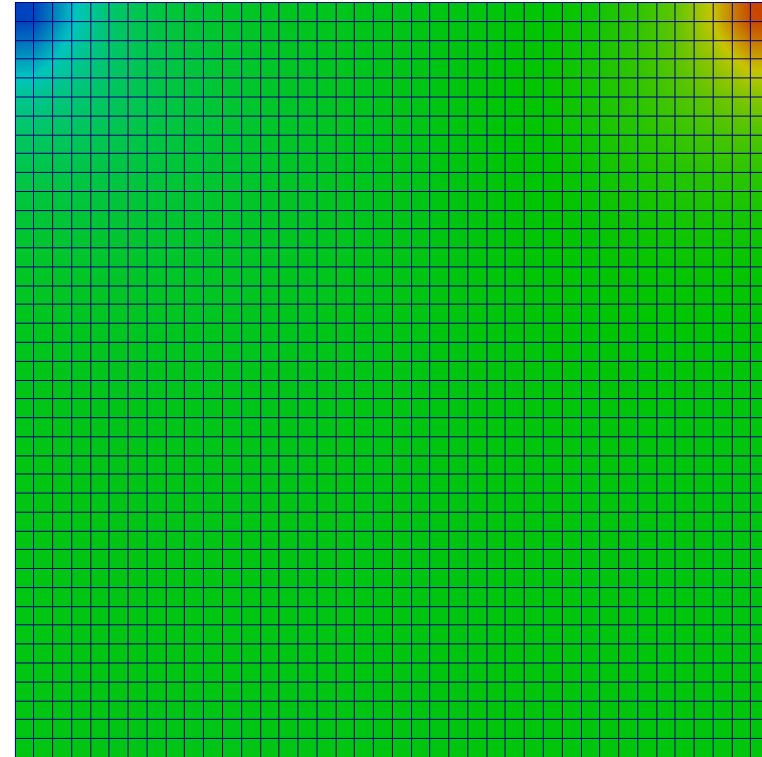
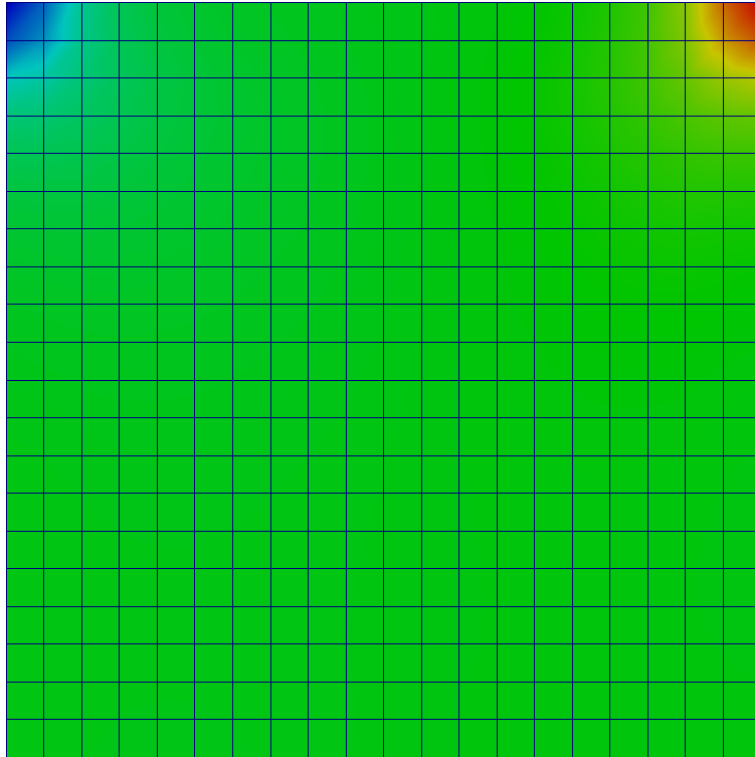
- Pressure contour plot of cavity.
- Legend at the bottom of the figure.

CavityClipped



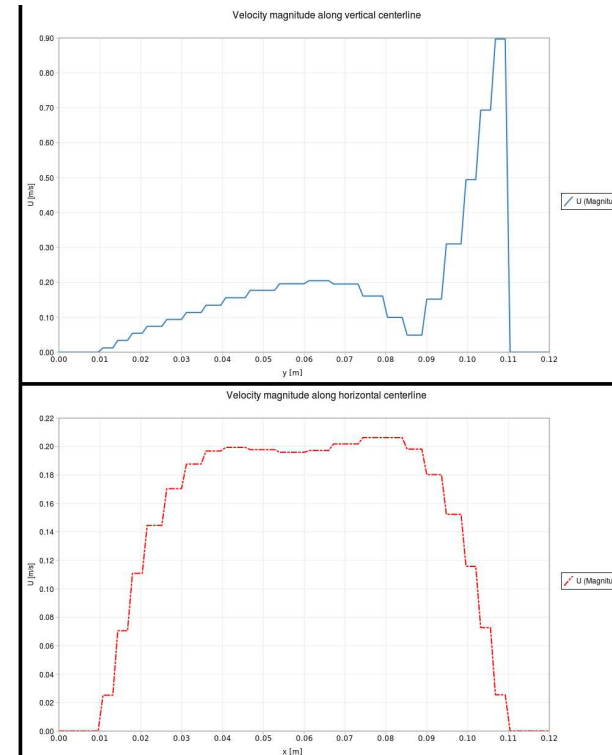
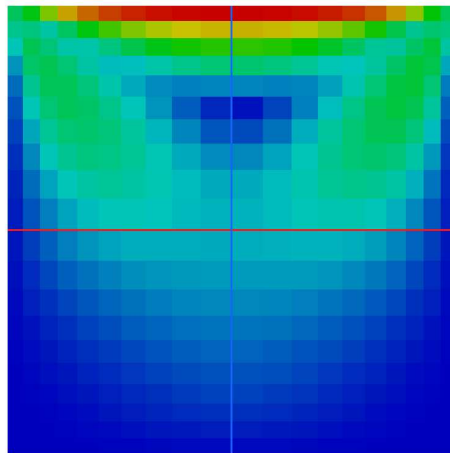
- Velocity contour plot
- Also included are glyphs showing the velocity field direction.

CavityFine



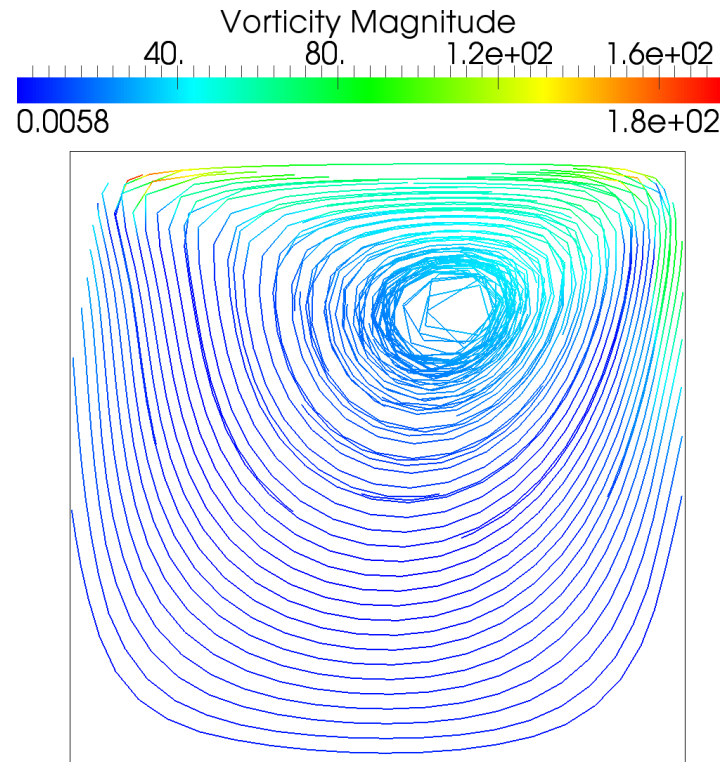
- Comparison of the coarse and fine mesh. Translated the mesh using `Transform`.

CavityGrade



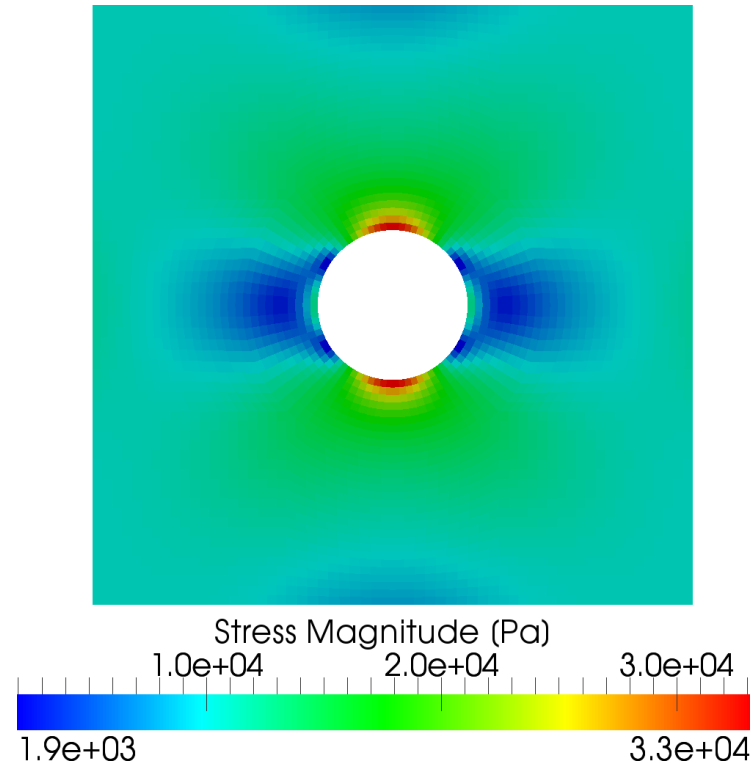
- Contour plot and velocity plots in the same figure. Done by splitting the window in paraFoam.
- Velocities are plotted along two center lines; one vertical and one horizontal.

CavityHighRe



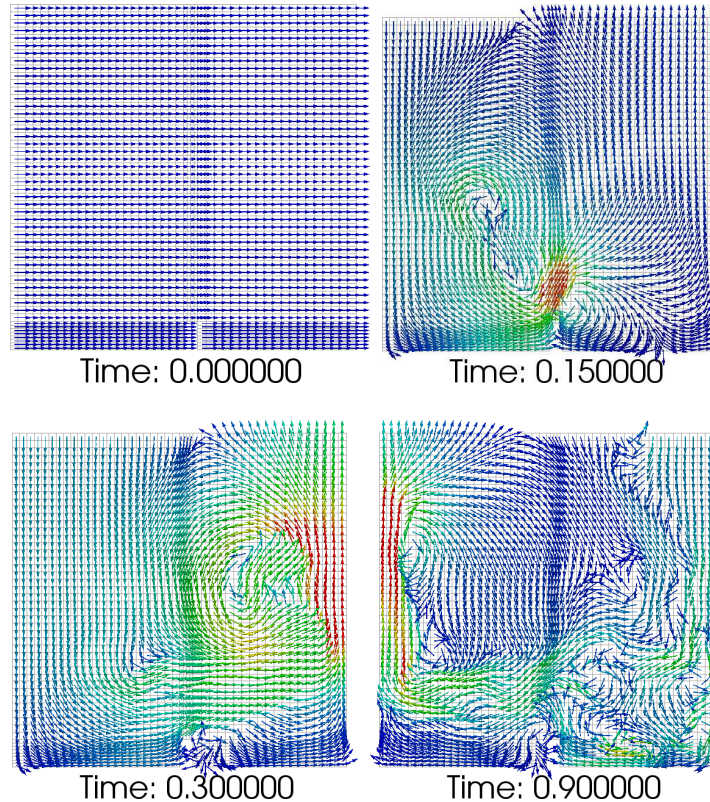
- Streamlines colored by vorticity magnitude.
- Colorbar at the top.

plateHole



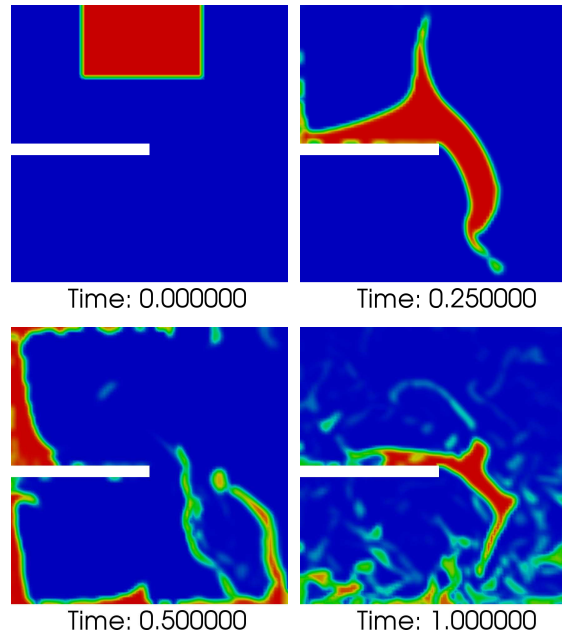
- Contour plot of the stress magnitude.
- Symmetry shown by importing and rotating 3 additional domains using `transform`.

damBreak



- Vector plots showing the velocity field at four different timesteps.
- Time displayed for each step using `Annotate Time under Source`.

damBreakFine



- Mesh altered by editing `blockMeshDict`. Also different alpha distribution by editing `system/setFieldsDict`. See code in next slides.
- Also rotated by using the `transformPoints` utility. After running `blockMesh` and `setFields`, run

```
transformPoints -case damBreakFine -rotateAlongVector "(0 0 1) -90"
```

. This rotates the mesh -90 degrees along the Z-axis

damBreakFine pt2

—setFieldsDict—

```
boxToCell
{
box (0 0.15 -1) (0.15 0.4 1);

    fieldValues
    (
        volScalarFieldValue gamma 1
    );
}
```

damBreakFine pt3

—blockMeshDict—

vertices

```
(  
    (0 0 0)  
    (2 0 0)  
    (2.16438 0 0)  
    (4 0 0)  
    (0 2 0)  
    (2 2 0)  
    (2.16438 2 0)  
    (4 2 0)  
    (0 4 0)  
    (2 4 0)  
    (2.16438 4 0)  
    (4 4 0)  
    (0 0 0.1)  
    (2 0 0.1)  
    (2.16438 0 0.1)
```

```
(4 0 0.1)
(0 2 0.1)
(2 2 0.1)
(2.16438 2 0.1)
(4 2 0.1)
(0 4 0.1)
(2 4 0.1)
(2.16438 4 0.1)
(4 4 0.1)
```

```
);
```

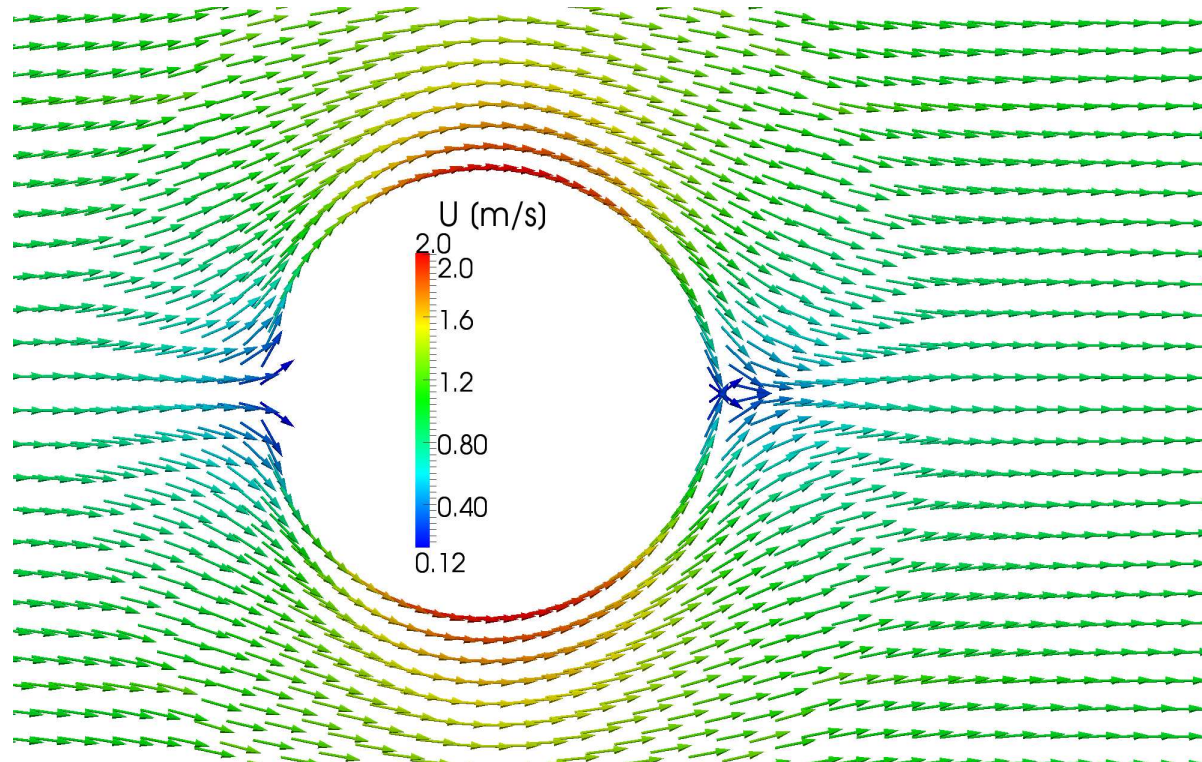
```
blocks
```

```
(
```

```
hex (0 1 5 4 12 13 17 16) (46 43 1) simpleGrading (1 1 1)
hex (2 3 7 6 14 15 19 18) (40 43 1) simpleGrading (1 1 1)
hex (4 5 9 8 16 17 21 20) (46 43 1) simpleGrading (1 2 1)
hex (5 6 10 9 17 18 22 21) (4 43 1) simpleGrading (1 2 1)
hex (6 7 11 10 18 19 23 22) (40 43 1) simpleGrading (1 2 1)
```

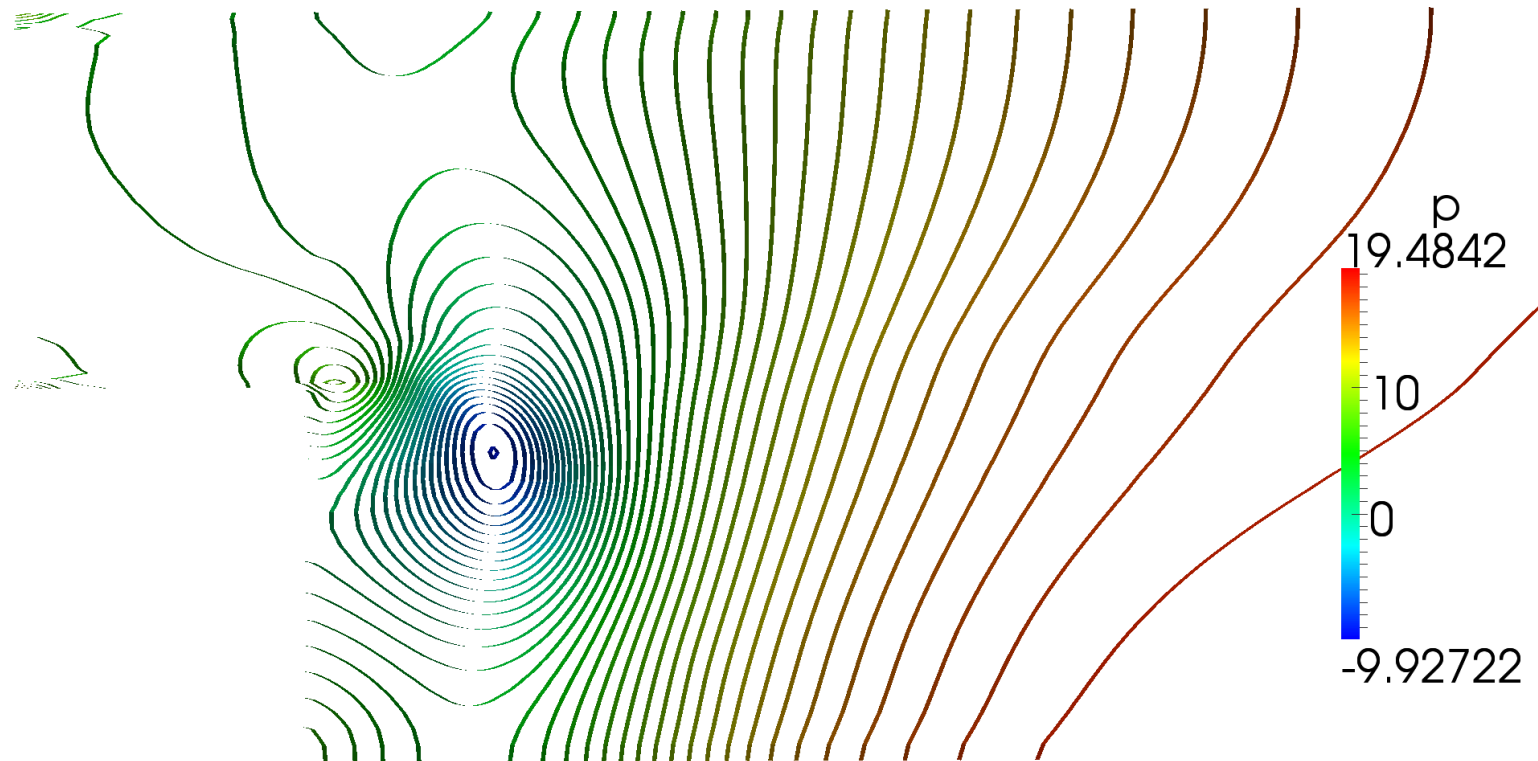
```
);
```

cylinder



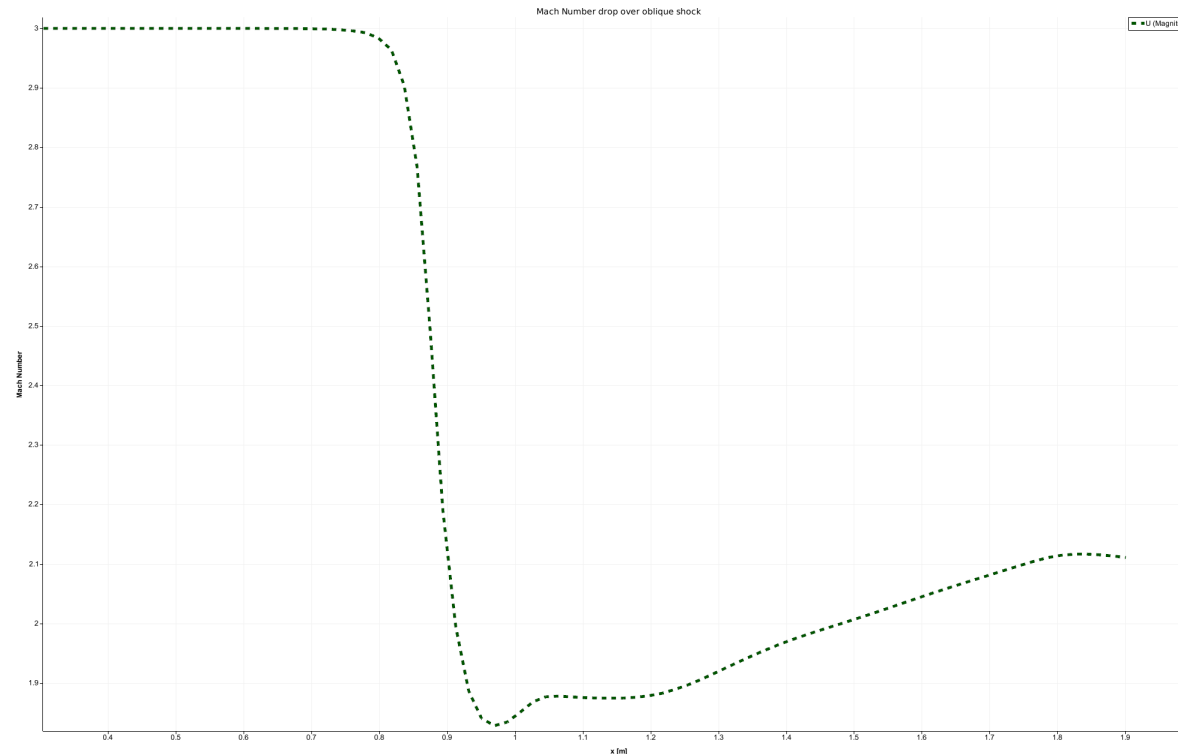
- Additional domain imported and rotated using transform.
- 3D Glyphs show the velocity field.

pitzDaily



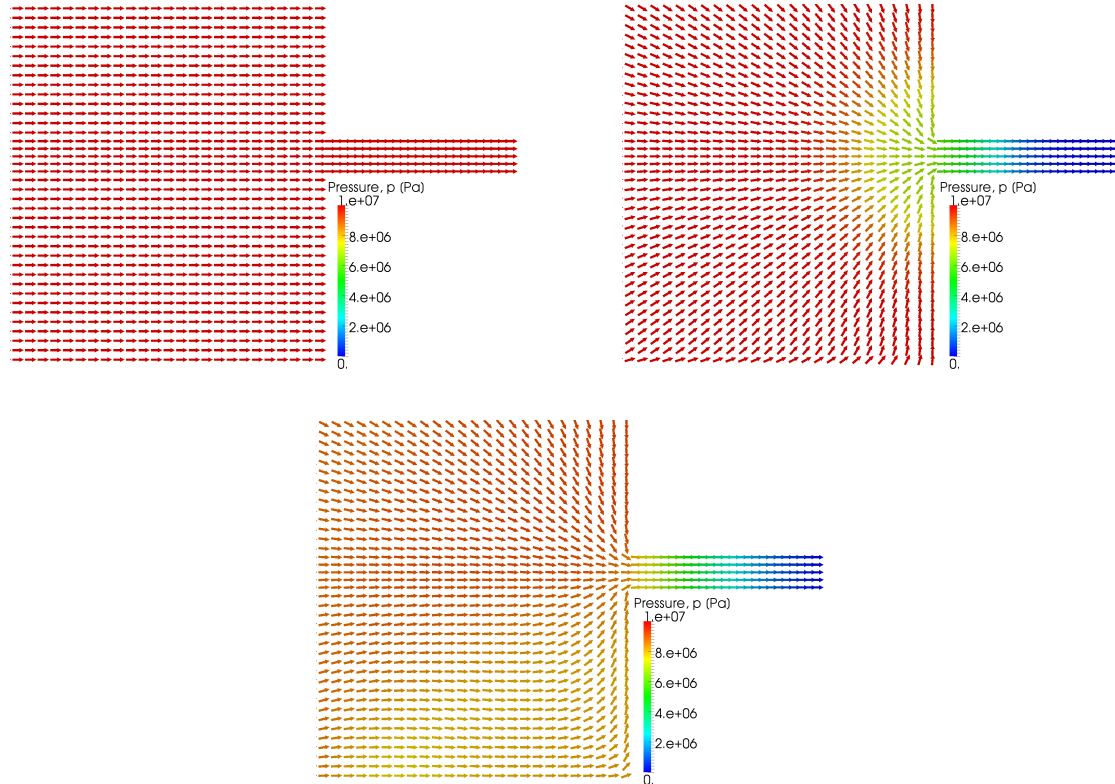
- Isosurfaces of pressure illustrated using Contour.
- Rotated slightly to show the isosurfaces.

forwardStep



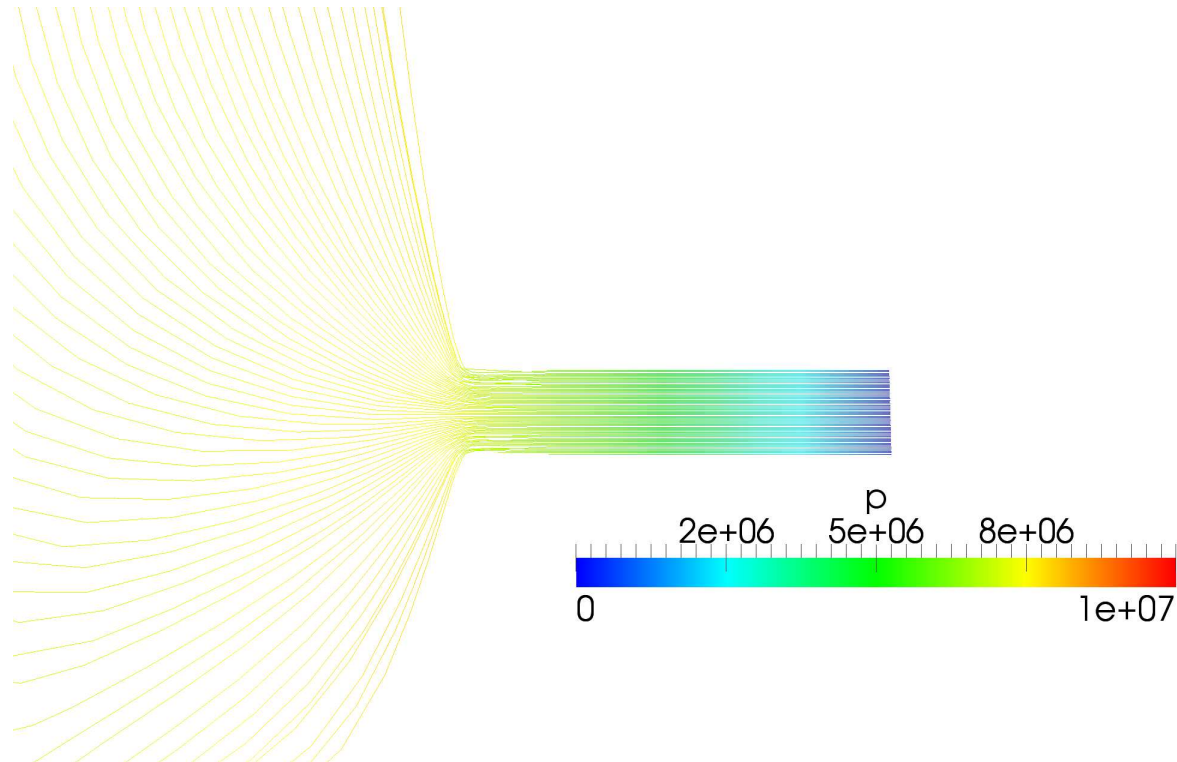
- Dashed line showing the velocity drop across the first oblique shock.
- Obtained using Plot Over Line.

decompressionTank



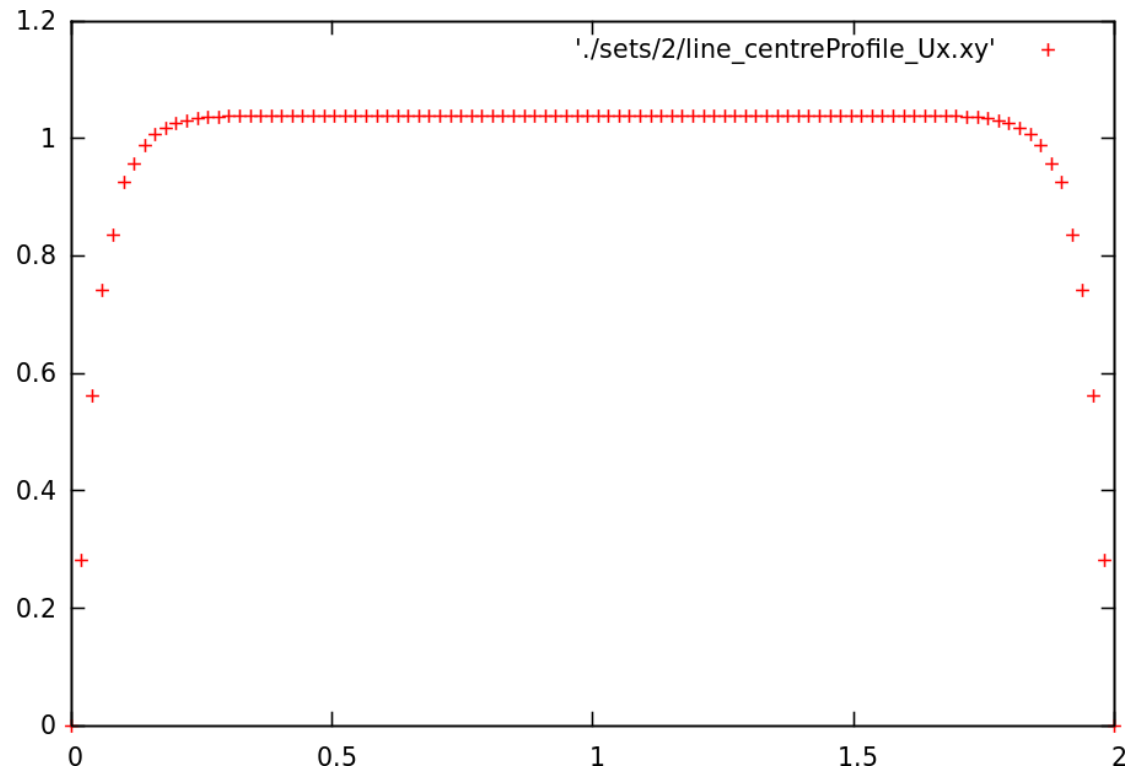
- Velocity field glyphs colored by pressure.

decompressionTankFine



- Streamlines colored by pressure.

hartmann



- Velocity plot at 2 seconds, using the `sample` utility and `gnuplot`.