Mattias Olander

Cavity



- To the left is a contour plot of the pressure. Filters Contour then New Range Steps=15 and Surface with Edges.
- To the right is a picture of streamtubes of the velocity. Filters StreamTracer Filters GenerateTubes with Point1=(0.0500.005), Point2=(0.050.30.005) and Resolution=50.

CavityFine



• On the refined mesh the velocity is plotted with glyph with a wireframe behind. Filters - Glyph

CavityGrade



• A contour plot of the pressure with the graded mesh and its wireframe. Filters – Contour then New Range – Steps=30 and Points.

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CavityHighRe



• For the CavityHighRe case a glyph consisting of rectangles is shown. Filters - Glyph with Box, X Length=4 and velocity_components.

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Cavity



• This is a comparison between the intial and final solution of the cavityClipped case. The change is displayed with a StreamTracer plot. Filters - StreamTracer, then Y axis and Resolution=25.

SolidDissplacementFoam



• Above is sigmaxy plotted with the help of the shrink command. Filters – Shrink with Shrink Factor=0.75 and Surface With Edges.

DamBreak



• Here, a surface plot is taken from time=0.3 by checking the box for alpha1 under Volume Fields.

DamBreakFine



• Surface plot at the same time as before (time=0.3) but with a finer mesh.

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Cylinder



• The vorticty is plotted with StreamTracers together with the corners of the outline. Filters - StreamTracer Filters - Outline Corners.

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PitzDaily



• The velocity is plotted with glyph and shrink at time=1000. Filters - Glyph and then Maximum Number of Points=400. Also Filters - Shrink with Shrink Factor=0.5.

ForwardStep



• A x-normal clip of the pressure plot is performed at (0.1 0.5 0). Filters - Clip, then X Normal and Origin=(0.1 0.5 0)

DecompressionTank



• The velocity is plotted at time=4e-05 with ribbon. Filters - StreamTracer, then Point Source with Point=(0.1 0.055 0) and Number of Points=100. With the marker on the StreamTracer Filters - Ribbon and then Width=0.001.

DecompressionTankFine



• The threshold function is applied at T=6.6e-05 for pressure, to take away the area which isn't of interest. Filters – Threshold, then reduce Upper Threshold to 9.9e+06.

Hartmann



• The velocity in the x-direction is plotted across a line from the left lower corner to the opposite corner. Filters - Plot Over Line and then choose only volPointInterpolate(Ux).

DamBreakModified



• The damBreak tutorial is modified by moving the liquid to the top middle of the domain and executing for two seconds instead of one.

DamBreakModified

- Go to damBreak/system/setFieldsDict and change to: box (0.1500 0.300 -1) (0.4500 0.500 1);
- Go to damBreak/system/controlDict and change endTime to 2.
- Execute blockMesh, setFields and interFoam.

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DamBreakModified



• The liquid is brought down by gravity and splits by the dam.