FLUENT - Flow Past a Cylinder - Problem Set

Problem Specification.
1. Create Geometry in GAMBIT.
2. Mesh Geometry in GAMBIT.
3. Specify Boundary Types in GAMBIT.
4. Set Up Problem in FLUENT.
5. Solve.
6. Analyze Results.
7. Change the domain size.
8. Unsteady Flow.
Problem Set
Citations

Problem Set

1. Compute the drag and lift coefficients for Re=300 and 1000 and plot them as functions of the dimensionless time. Compute the average values after the periodic oscillation is achieved. Compare them with the results provided in **Table 1** (as presented in step 6.

2. Compute the frequency of the oscillation and estimate the Strouhal number for Re=300 and 1000, St = fd/U. You may use Matlab or other tools to do the data analysis.

3. Show the typical instantaneous streamline, vorticity, and pressure contours for Re=300 and 1000.

4. Upload your animation onto OAK (less than 10 Mb).

Go to the Citations.

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