CSI 701

Homework-3

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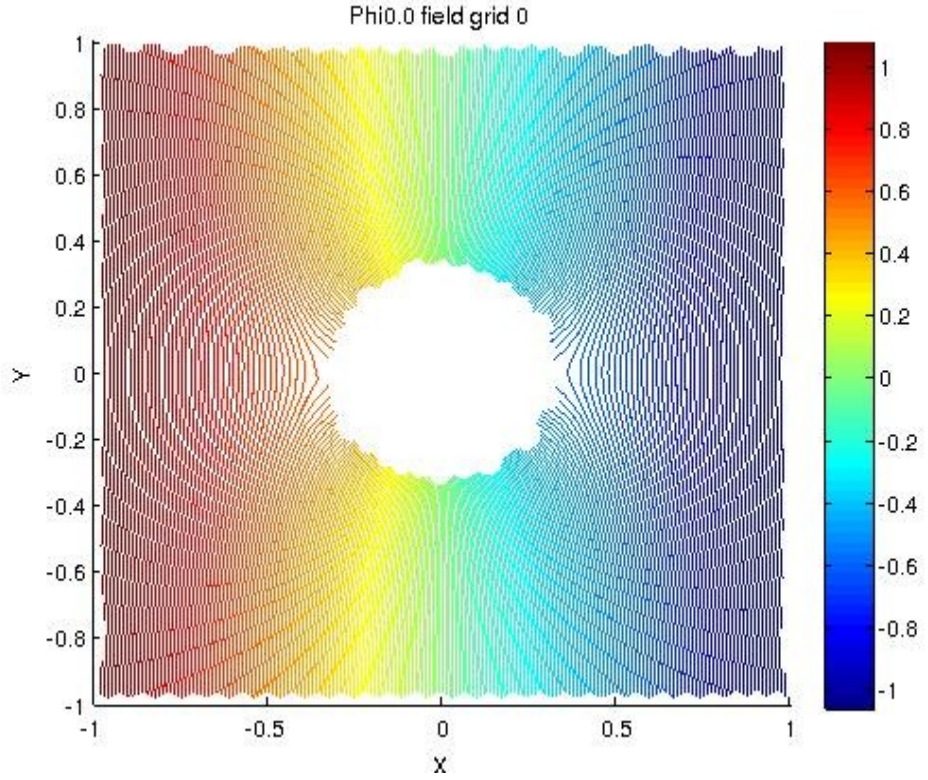
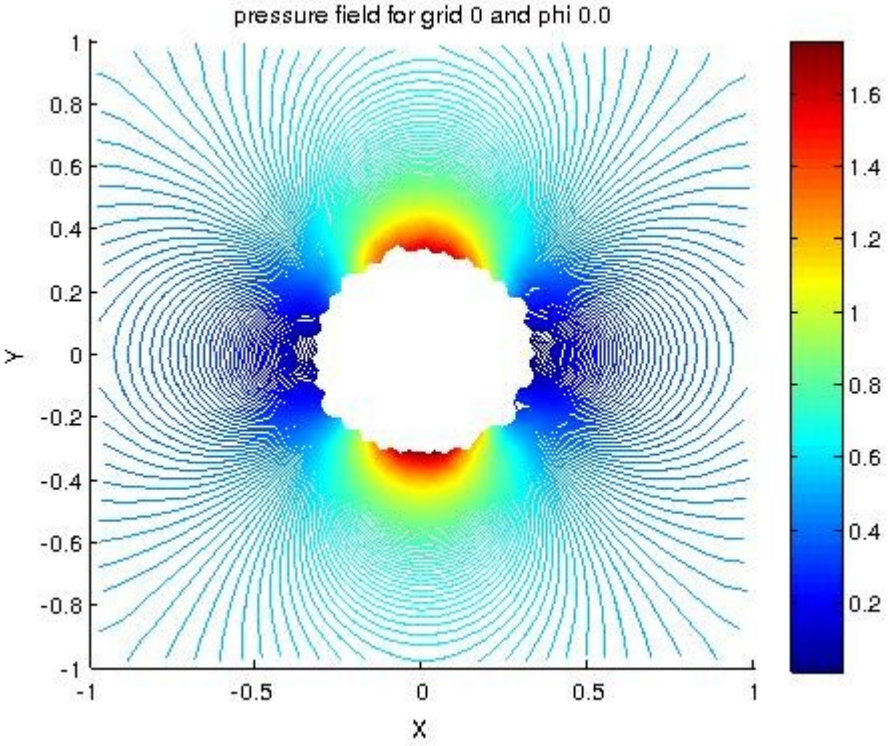
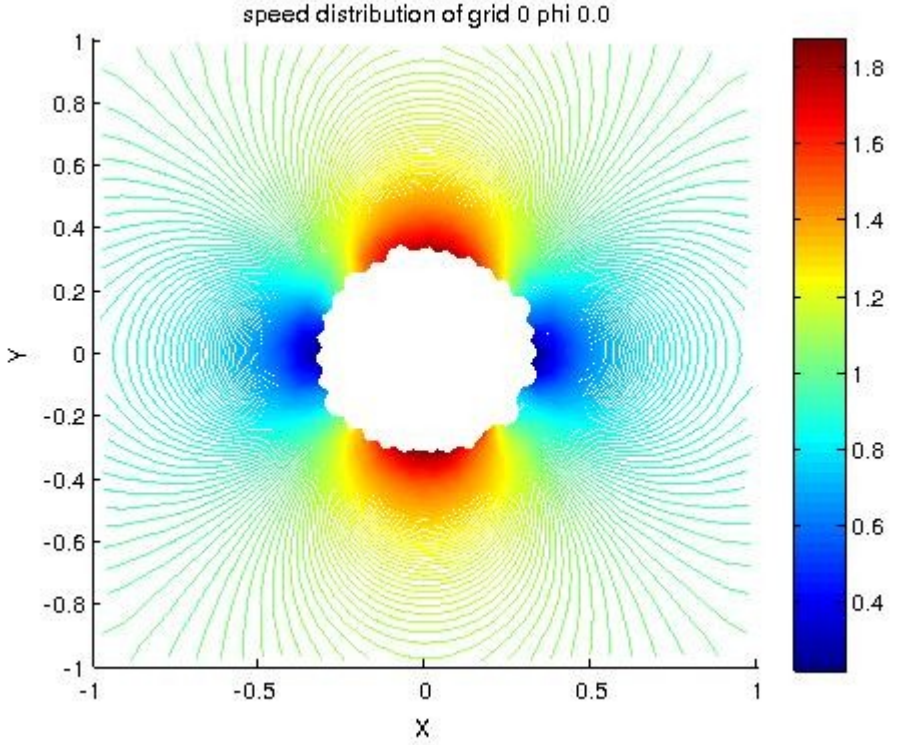
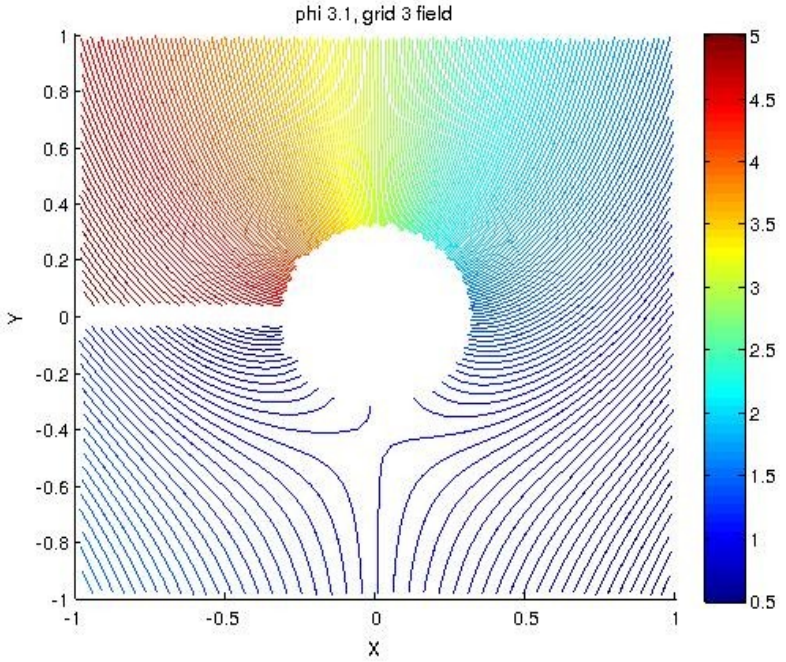
Parameters

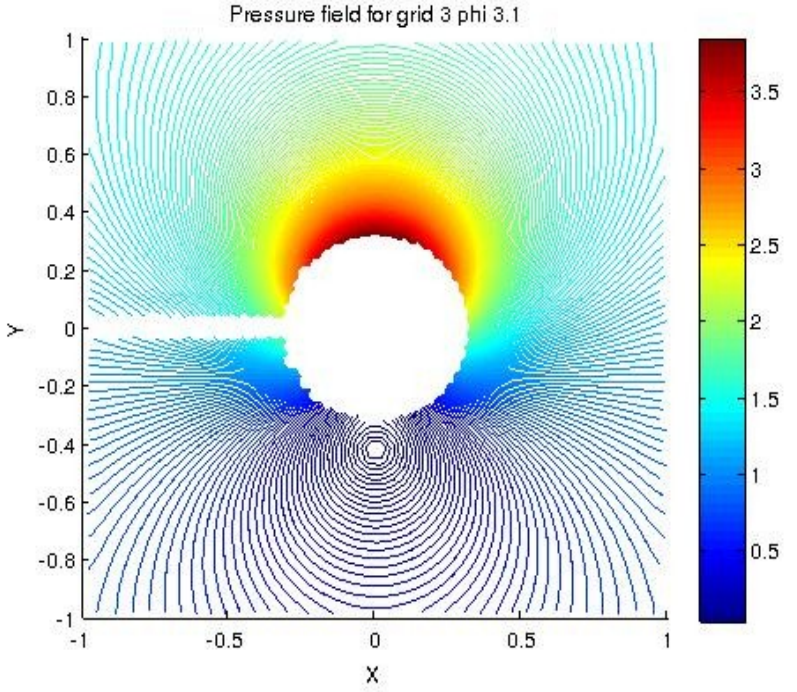
- FEM for approximating velocity field, pressure field
- Grid 0,3,4 with field 1,3.1,4.1 are solved.
- Code is compared with analytical field with potential function as $\Phi(x,y)=x$. Total 4 points, 2 elements got vx=[1.002,1,1,1.002] vy=[0.002,0,0,0.002];
- Highest pressure:
  - grid 0 phi 0.0 highest pressure at point 417 value 1.7703 Pa
  - grid 3 phi 3.1 highest pressure at 1097 of 7.6679 Pa.
- Lowest pressure:
  - grid 0 phi 0.0 lowest pressure at point 548 value 0.02296 Pa
  - grid 3 phi 3.1 lowest pressure at 1049 of 8.354e-5.

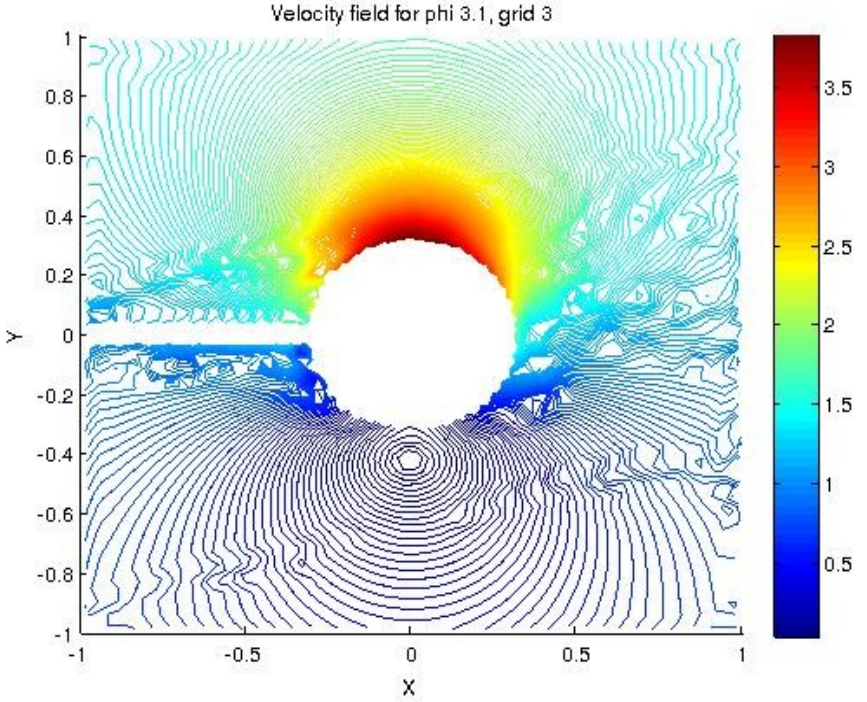

Phi0.0 field grid 0
X
Y

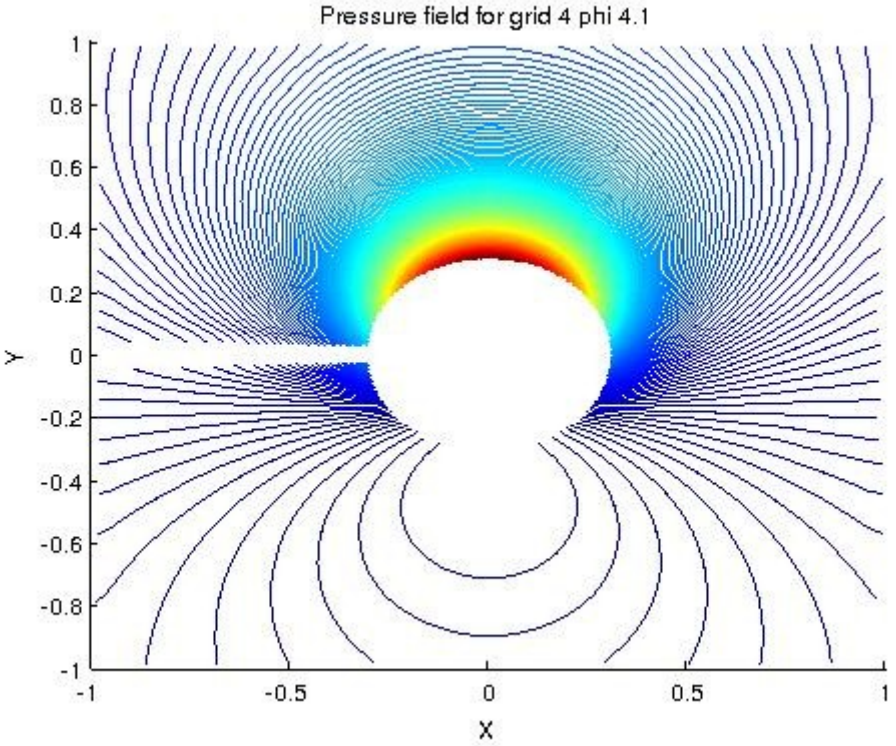

pressure field for grid 0 and phi 0.0
X
Y

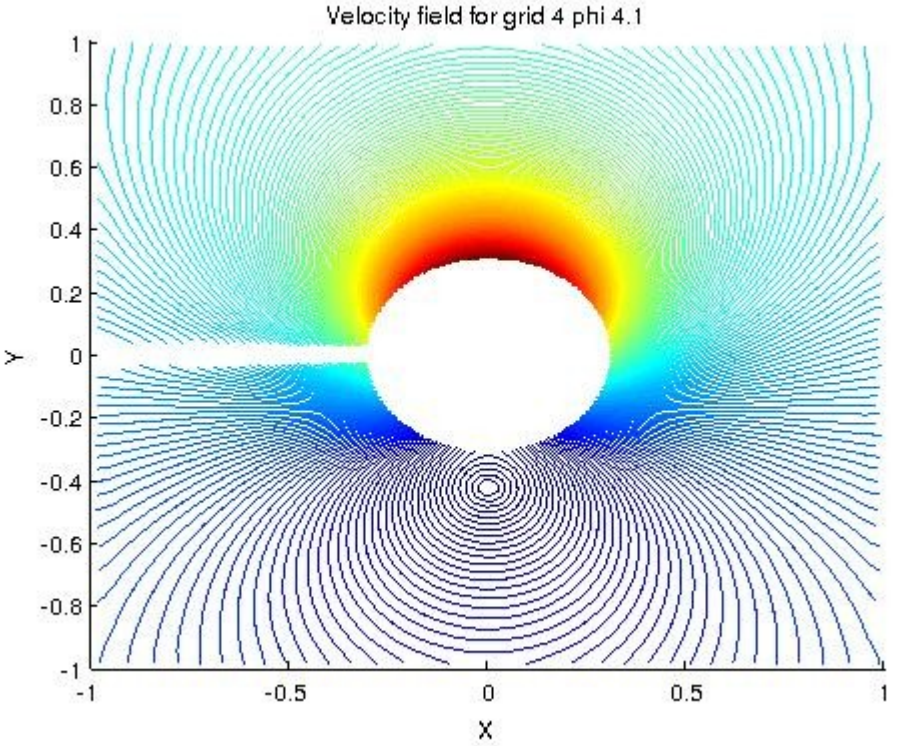

speed distribution of grid 0 phi 0.0
X
Y


phi 3.1, grid 3 field
X
Y


Pressure field for grid 3 phi 3.1
X
Y


Velocity field for phi 3.1, grid 3
X
Y


Pressure field for grid 4 phi 4.1
X
Y


Velocity field for grid 4 phi 4.1
X
Y