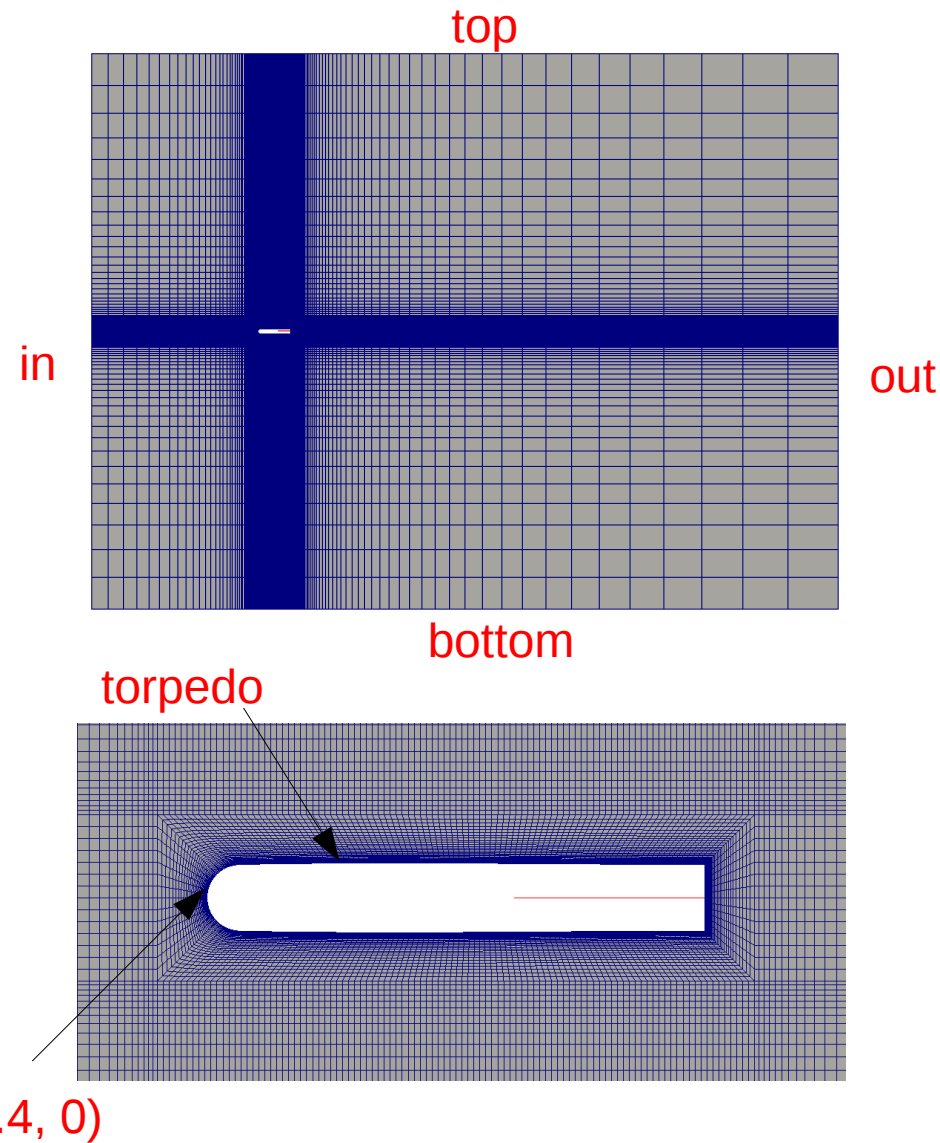


Torpedo PMM Motion Test

2015. 07

격자

- Torpedo
 - Length = 0.6m (0~0.6)
 - Diameter = 0.0837
- Domain
 - X : -3.06~10.7 (13.7m)
 - Y : 9.3~19.5 (10.2m)
- Mesh
 - 23,770 hexahedral cells

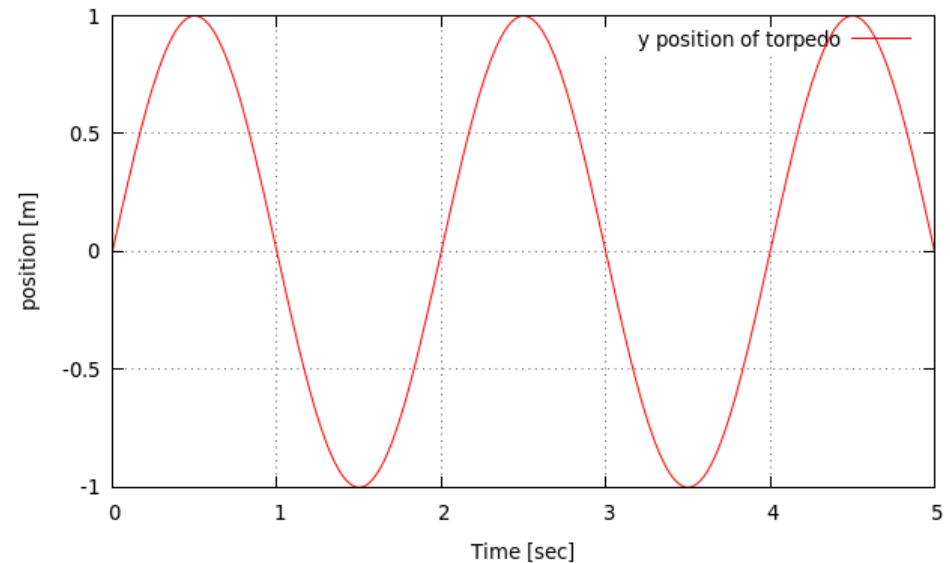


운동조건 및 경계조건

- 운동조건

- 상류 유동 속도 : 20m/s
- 상하 왕복운동
 - sine curve
 - 주기 : 2 초
 - 진폭 : 1m

- 경계조건

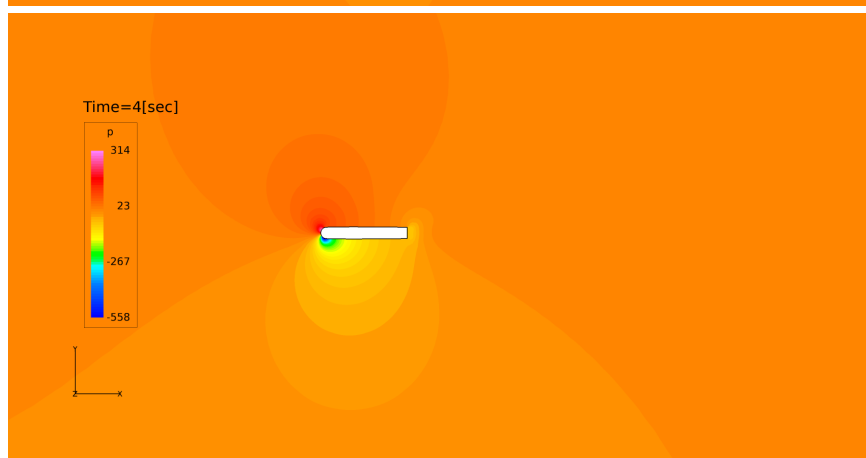
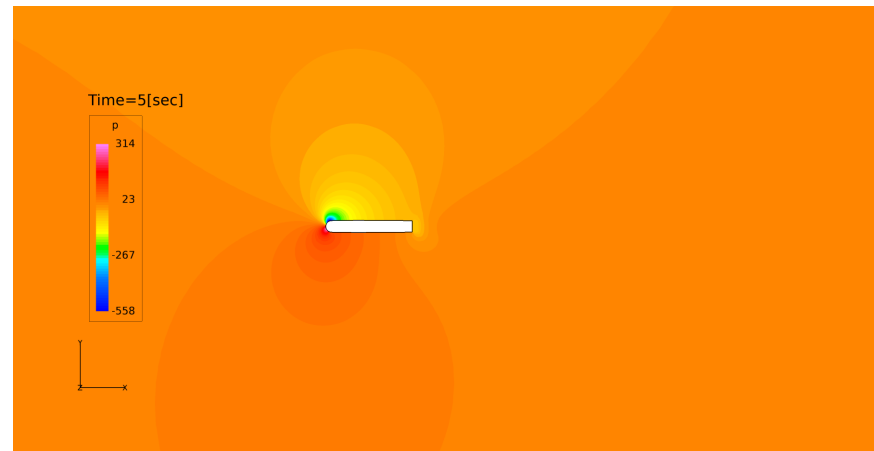
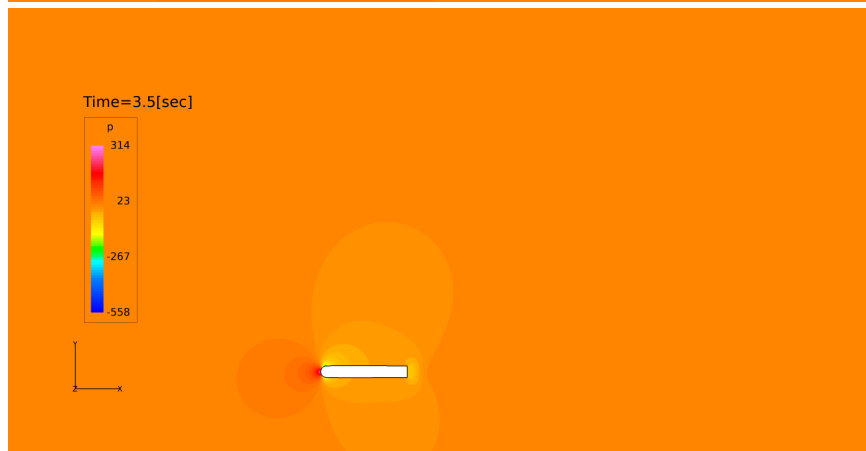
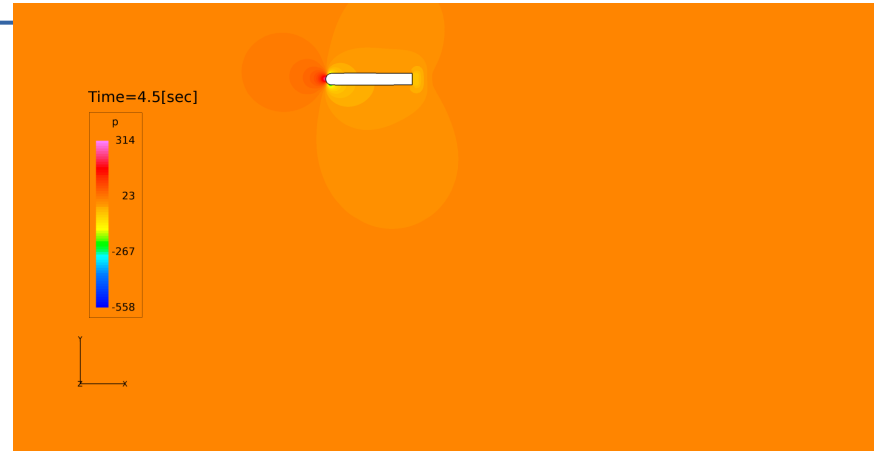
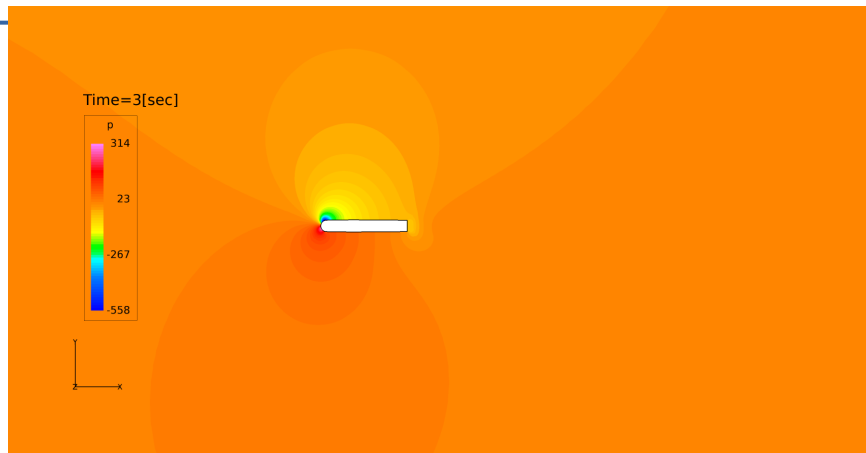


	U	p	k, epsilon
in	fixedValue (20 0 0)	zeroGradient	fixedValue
out	pressureInletOutletVelocity	fixedValue 0	zeroGradient
top/bottom	fixedValue (20 0 0)	zeroGradient	fixedValue
torpedo	fixedValue (0 0 0)	zeroGradient	wallFunction

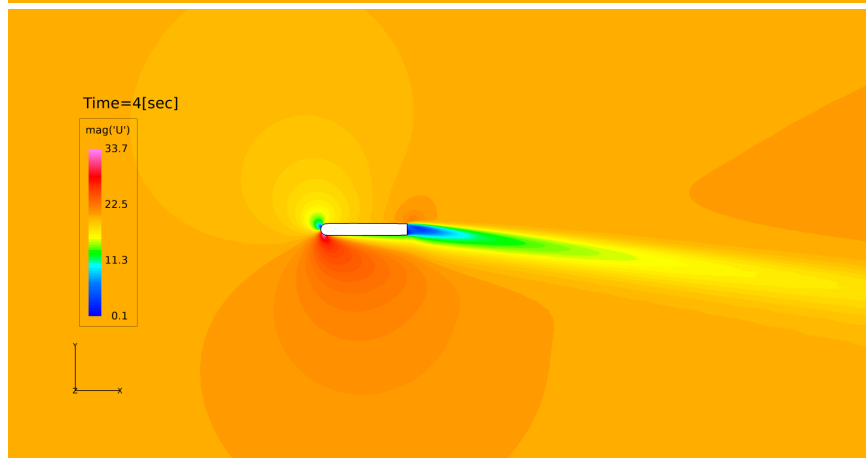
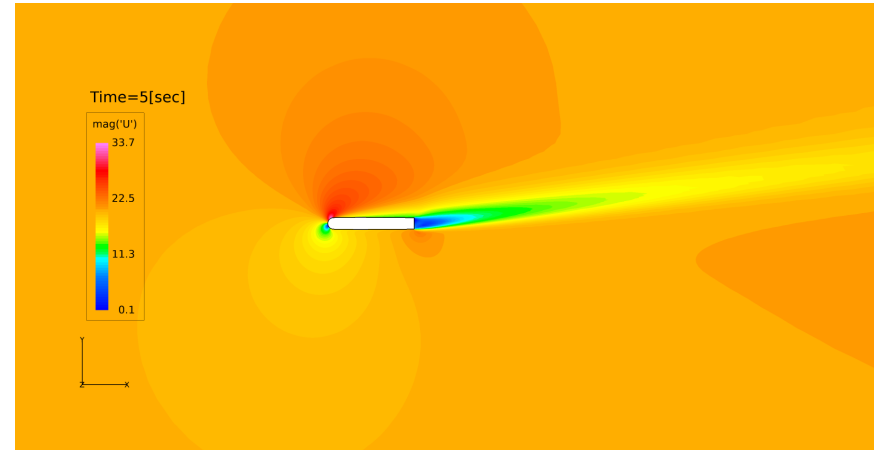
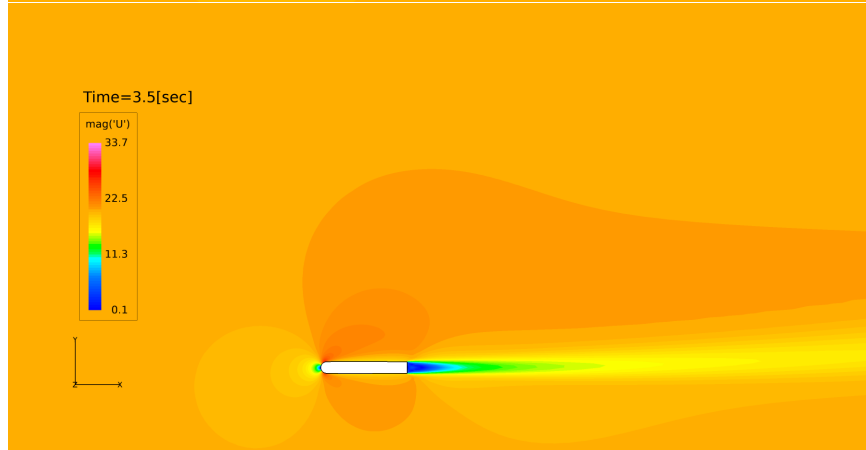
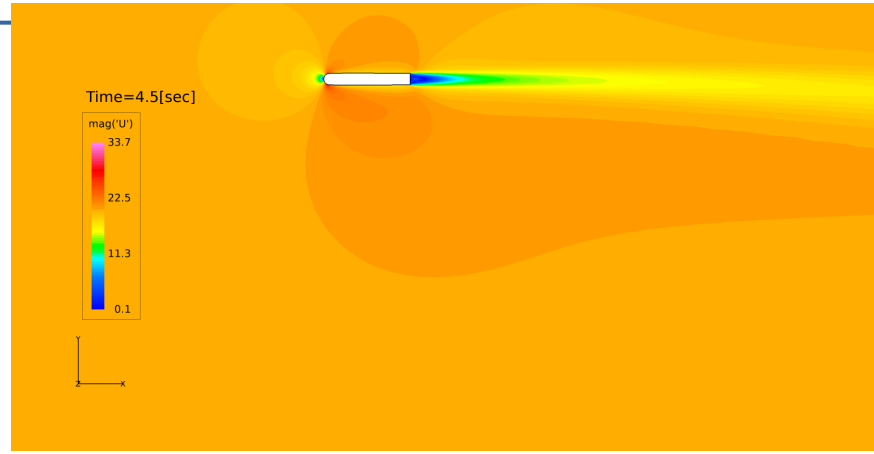
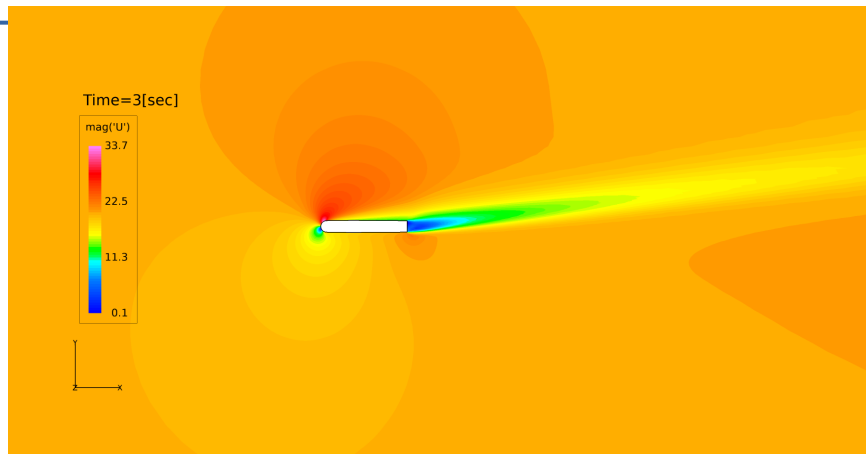
수치해석 모델

- 난류모델 : Kepsilon
- Viscosity : $1e-6$ [m²/s]
- dynamicFvMesh : solidBodyMotionFvMesh
 - solidBodyMotionFunction : tabulated6DoFMotion
- solver
 - pimpleDyMFoam of OpenFOAM-2.3.x
- fvSchemes
 - div(phi,U) : Gauss linearUpwindV Gauss linear
 - div(phi,k), div(phi,epsilon) : Gauss limitedLinear 1
 - LaplacianSchemes : Gauss linear limited corrected 0.5
- PIMPLE
 - nOuterCorrectors : 10
 - nCorrectors : 3
 - nNonOrthogonalCorrectors : 1

Pressure contour



Velocity magnitude contour



force coefficient

