オープンCAE勉強会@富山
第27回　報告

～interDyMFoamによる壁面移動～

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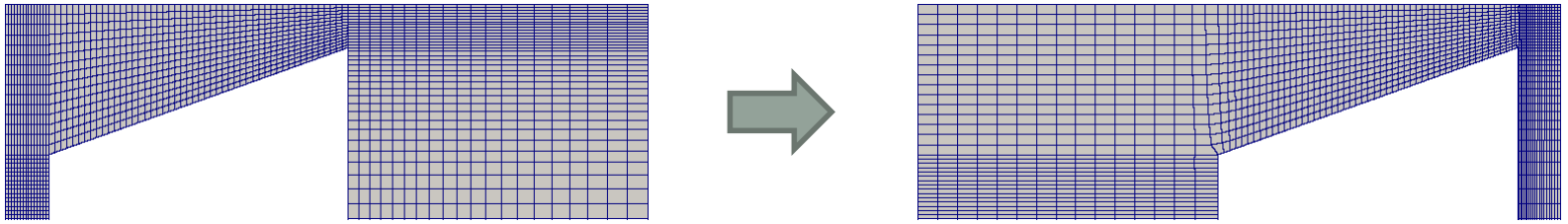
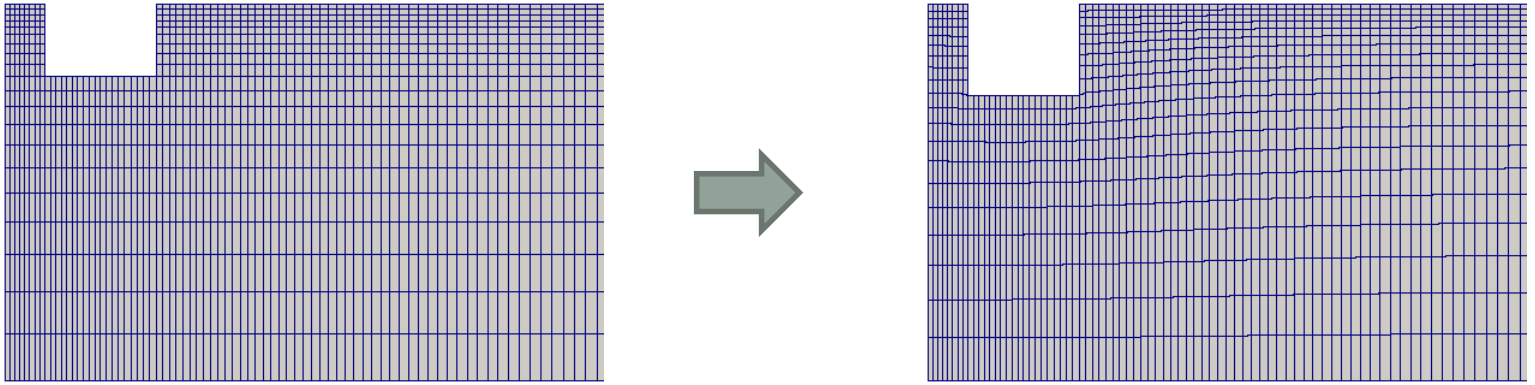
壁面移動のtutolials

- incompressible¥pimpleDyMFoam¥movingCone



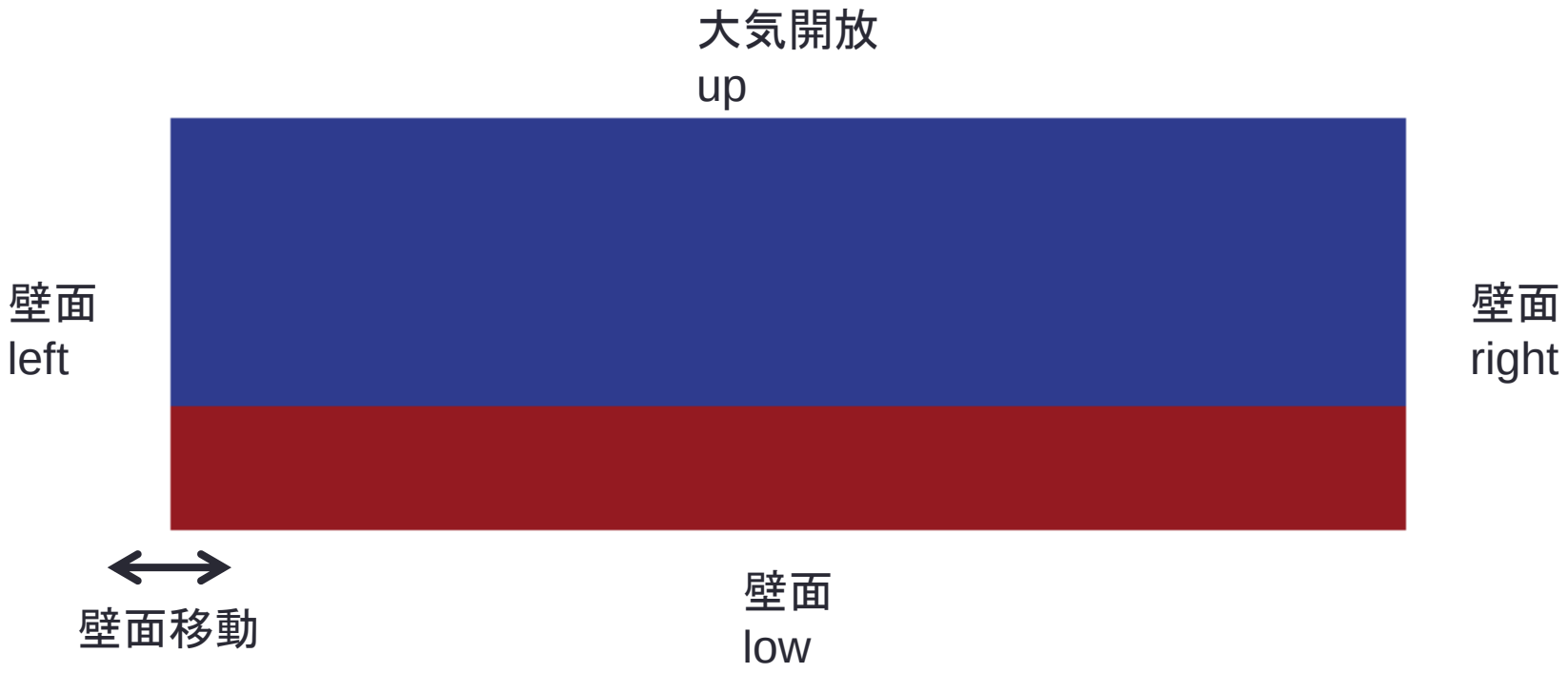
一定速度で壁面を移動

- Multiphase¥potentialFreeSurfaceDyMFoam



壁面を周期的に移動

解析条件




```
type            oscillatingDisplacement;
amplitude       (-0.035 0 0);
omega           3.14159265;
value           uniform (0 0 0);
```

U

```
dimensions      [0 1 -1 0 0 0 0];
internalField   uniform (0 0 0);
boundaryField
{
    up
    {
        type            pressureInletOutletVelocity;
        value           uniform (0 0 0);
    }
    left
    {
        type            movingWallVelocity;
        value           uniform (0 0 0);
    }
    low
    {
        type            movingWallVelocity;
        value           uniform (0 0 0);
    }
    right
    {
        type            movingWallVelocity;
        value           uniform (0 0 0);
    }
    frontAndBack
    {
        type empty;
    }
}
```

p_rgh

```
dimensions      [1 -1 -2 0 0 0 0];
internalField   uniform 0;
boundaryField
{
    up
    {
        type            totalPressure;
        p0              uniform 0;
        U               U;
        phi             phi;
        rho             none;
        psi             none;
        gamma           1;
        value           uniform 0;
    }
    left
    {
        type            fixedFluxPressure;
        value           uniform 0;
    }
    low
    {
        type            fixedFluxPressure;
        value           uniform 0;
    }
    right
    {
        type            fixedFluxPressure;
        value           uniform 0;
    }

    frontAndBack
    {
        type empty;
    }
}
```

Alphp.water（setFields前）

```
dimensions      [0 0 0 0 0 0 0];
internalField   uniform 0;
boundaryField
{
    up
    {
        type            inletOutlet;
        inletValue      uniform 0;
        value           uniform 0;
    }
    left
    {
        type            zeroGradient;
    }
    low
    {
        type            zeroGradient;
    }
    right
    {
        type            zeroGradient;
    }
    frontAndBack
    {
        type empty;
    }
}
```

pointDisplacement

```
dimensions      [0 1 0 0 0 0 0];
internalField   uniform (0 0 0);
boundaryField
{
    up
    {
        type            fixedNormalSlip;
        n               (0 1 0);
    }
    left
    {
        type            oscillatingDisplacement;
        amplitude       (-0.035 0 0);
        omega           3.14159265;
        value           uniform (0 0 0);
    }
    low
    {
        type            fixedNormalSlip;
        n               (0 1 0);
    }
    right
    {
        type            uniformFixedValue;
        uniformValue    (0 0 0);
    }
    frontAndBack
    {
        type empty;
    }
```

dynamicMeshDict

```
dynamicFvMesh dynamicMotionSolverFvMesh;

motionSolverLibs ("libfvMotionSolvers.so");

solver displacementLaplacian;

displacementLaplacianCoeffs
{
diffusivity  inverseDistance 1(floatingObjectBottom);
}
```

解析結果