Abstract

VAWT is a type of wind turbine where the axis of rotation is set transverse to the wind. This simulation shows the use of dynamic mesh for a model of VAWT in OpenFOAM.

Problem Statement

Simulate the case for a 2D geometry of model VAWT inside a channel. Use the transient solver *pimpleFoam* for rotation of rotor in CCW direction.
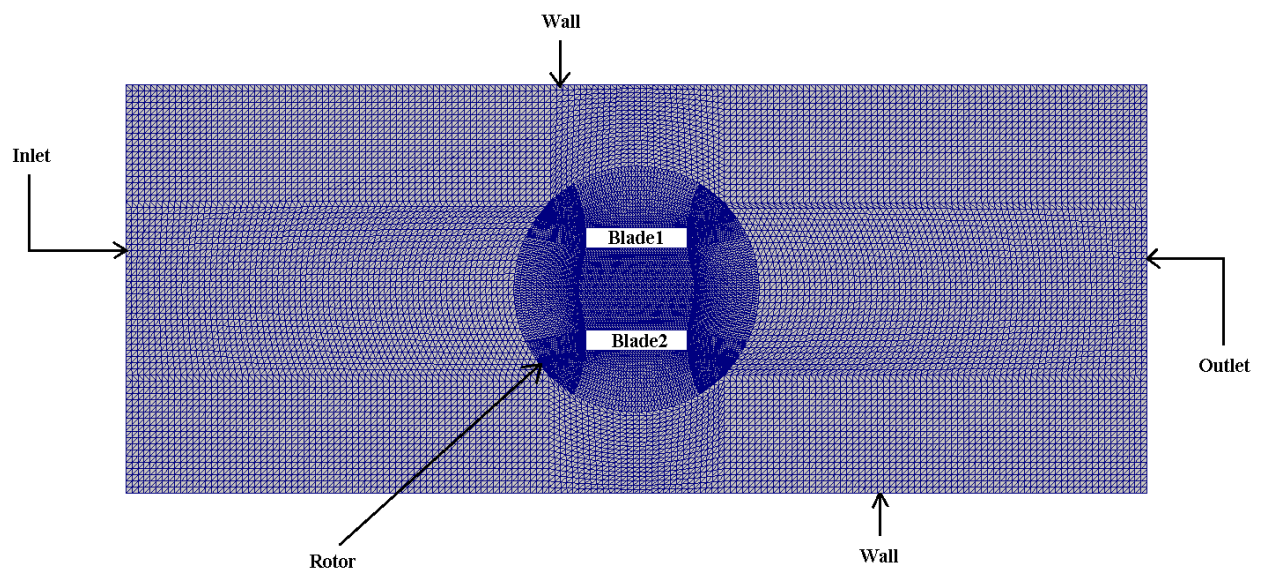

Fig.1. 2D geometry with mesh

Fluid properties and initial parameters:

U_{air} = 1 m/sec

υ_{air} = 1e-05 m^2/sec

ω = 10 rad/sec

Rotation = CCW

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