

CFD Effect of the Tidal Grating in Opposite Directions

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Abstract : Flow blockages referring to the increase in flow are considered as a vital equipment for marine current energy conversion. However, the shape of these devices will result in extracted energy under the operation. The present work investigates the effect of two configurations of a grating, convergent and divergent that located upstream, to the water flow velocity. Computational Fluid Dynamic simulation studies the flow characteristics by using the ANSYS Fluent solver for these specified arrangements of the grating. The results indicate that distinct features of flow velocity between “convergent” and “divergent” grating placements are up to in confined conditions. Furthermore, the velocity in case of granting is higher than that of the divergent grating.

Keywords : marine current energy, converter, turbine granting, RANS simulation, water flow velocity

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