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## Hydrodynamic Characteristics of a Darrieus Water Turbine for Tidal Power Generation

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**Summary:** The Darrieus turbine is one of the suitable water turbine for tidal power generation, because of the high performance by making use of the lift generated by rotating wings around the vertical axis, therefore, no directivity to tidal current, and the structural simplicity with the straight wings. Torque generated by one, two and three rotating wings was measured by the dynamometer in the circulating water tank. Power coefficients of the turbines with two wing sections of NACA0018 with/without the camber were measured in the experiments. Power coefficient change by the wing attaching angles to the rotor was also studied. Torque around the axis of the Darrieus turbine is estimated by the single stream tube theory and the results of the starting torque are discussed in comparison with measurements.

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