

Examsarbete/Master Thesis

Background:

Minesto is developing a new concept for tidal stream power plants called Deep Green. Deep Green will make a step change of cost for tidal energy and has the possibility to be profitable in areas where no other known plant is efficient enough to be placed. The technology in Deep Green is still confidential and will be revealed when the company has reasons to do so.

A very promising design differing from the initial design came up during development. The advantages and performance of this design should be analyzed in a master thesis. The main task is to develop a suitable wing/blade design. The lift and drag coefficients for this wing should be calculated for an inflow velocity distribution which is dependent on the plants motion. The velocity of the plant has then to be calculated depending on the inflow velocity to calculate the energy output over given tidal cycle.

Depending on the students skills this thesis may involve CFD-analysis and/or MATLAB simulation. For this thesis skills in fluid mechanics and/or turbine design are preferable.

Scope of work:

The diploma thesis is intended for one student

The objectives of the proposed diploma work are:

- Design of an asymmetrical wing
- Calculation of the possible energy output of the device in a given environment

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