LOADTIDE

FULL SCALE FATIGUE TESTING FOR IMPROVED COMPOSITE DESIGN

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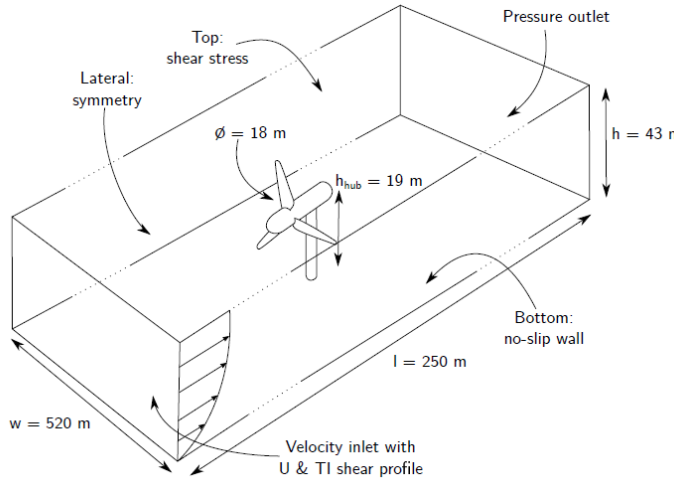
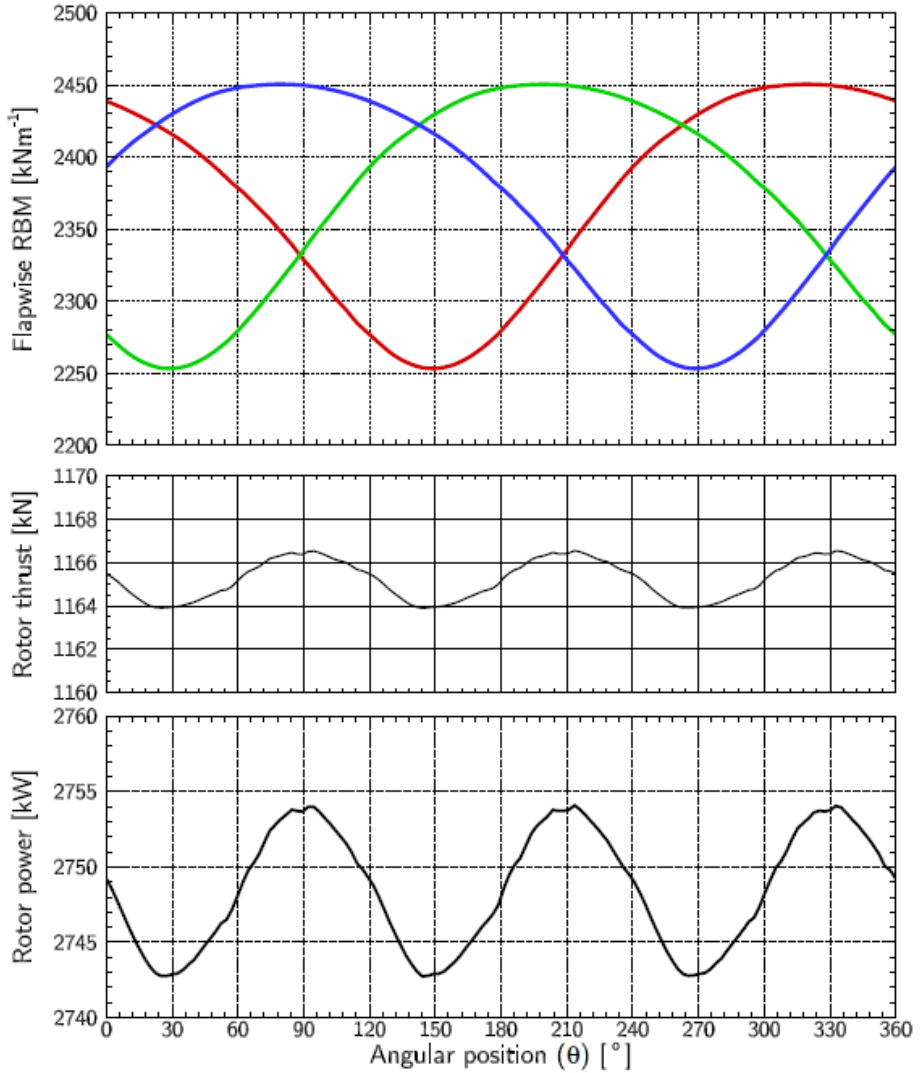
Lodtide-Computational methods

- URANS simulations performed in OpenFoam with k-ω SST turbulence closure
- Turbine represented with an actuator line model
- Domain included extra resolution at top and bottom to capture variation in flow profile, approx. 2.8x10^6 elements
- Blockage ratio: 1.14%
- Ebb tide, 3.5 m/s hub-height flow speed
- 1p fluctuations in individual blade RBMs observed
- 3p fluctuations in rotor thrust and power
- RBM asymmetry between top and bottom of rotation due to flow profile





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