

Blunt airfoil를 이용한 Phase VI Blade의 성능변화

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The performance analysis for NREL Phase VI Blade with blunt airfoil

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This study focus on the performance of blade with blunt airfoil which used at root region on Computational Fluid Dynamics(CFD). Based on the Phase VI had experiment by NREL, the experiment condition is also used for the performance of blade with the airfoil that trailing edge is changed. The thickness of airfoil trailing edge 1% and 5% is substituted for original airfoil. This study was progressing to calculate the pressure coefficient and torque from the effect on each airfoil according to difference of the thickness.

Key words : Blunt airfoil(변형 익형), Trailing edge(뒷전), Numerical analysis(수치해석), pressure coefficient(압력 계수), CFD(전산유체역학)

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Wind Shear를 고려한 NREL Phase VI 블레이드의 출력특성연구

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Study for the Power Characteristic of NREL Phase VI Blade considering Wind Shear

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As rotor blade of a wind turbine becomes larger to satisfy the economic efficiency for offshore wind farm, the numerical analysis considering wind profile is getting emphasized. In this paper, the study for the power characteristic of a wind turbine is carried out using NREL phase VI wind turbine applied wind profile. The experimental data of NASA Ames wind tunnel for inflow velocity 7m/s is used and the numerical result is obtained by using CFD commercial solver(FLUENT).

Key words : Economy efficiency(경제적 효율성), Offshore wind farm(해상풍력발전단지), Numerical analysis(수치해석), Wind profile(풍속수직분포), Power characteristic(출력특성), CFD(전산유체역학)

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