

عنوان مقاله:

Numerical aeroelastic analysis of wind turbine NREL Phase VI Rotor

محل انتشار:

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خلاصه مقاله:

This study investigated the performance and aeroelastic characteristics of a wind turbine blade based on strongly coupled approach (two-way fluid structure interaction) to simulate the transient FSI responses of HAWT2. Aerodynamic response was obtained by 3D CFD-URANS approach and structural response was obtained by 3D Finite element method. Aeroelastic responses of the blade were obtained by coupling those aerodynamic and structural models. The analysis model was validated using the experimental result of performance of NREL phase VI rotor which was conducted by NASA/AMES wind tunnel. Numerical results consist of torque and pressure coefficient in different sections of span (over wind speed of 7 to 15 m/s) which were compared with available experimental results. The present model was also evaluated with results of other aeroelastic simulations

کلمات کلیدی:

Aeroelastic, CFD, FSI, Wind Turbine

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