The Characteristic of the Hub Construction Wind Power Industry of the West-South Seashore with Favorable Products

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This paper has represented about the wind power industry of the west-south seashore with leading industry development for Honam Economic Region. These projects have composed of wind power industry of the west-south seashore, offshore wind turbine(2MW, 3MW) and onshore wind turbine(3kW, 5kW, 10kW), 11 projects, during 3 years- with honam leading industry development for economic region. The contents of these project are 3 favorable products and 3 business support projects. The favorable products are the MW offshore wind system with Outer-rotor type PMSG, the 3MWowfshore wind system with adaptation type of west-south sea, the hybrid generator system with wind turbine technology basis.

Key words : Certification, West-South Seashores, Low Speed Type, Out-Roter PMSG, Blade, Resin

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Aerodynamic method of H-Darrieus wind turbines

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In this study, we have constructed the method of design about H-Darrieus wind turbine, a kind of VAWT(vertical axis wind turbine). The NACA 0012 airfoil is chosen for the blade, and DMS(double multiple streamtube) theory is used for the analysis. The flow field is computed with numerical solution of rotating Navier-Stokes equations. From the result of experimental data of power coefficient curves, the validity of the present research is checked. Through the non-dimensional parameter analysis for the wind turbine design, we estimated the efficiency of wind turbine with the resultant Cp's, with which an efficient design of VAWT is achieved, and aerodynamic characteristics are presented systematically.

Key words : H-Darrieus, Vertical Axis Wind Turbine, Double Multiple Streamtube Theory, Computational Fluid Dynamics

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