Straight vertical blades of wind turbines

To develop a robust vertical axis wind turbine design, both hardware and software elements must be aligned. Hardware considerations include structural layout, material selection, and ...

VAWT can be thought as a good choice for the small- and middle-scale wind power market [2]. Although there are some types of VAWT, the straight-bladed vertical axis wind turbine (SB-VAWT) as a kind of ...

Wind tunnel tests were conducted to measure the rotational speed, total lift, drag and torque of the wind turbine with diferent structural parameters at varying wind speeds.

We propose a new approach to realize the optimum control of the pitch angles of the blades on a variable-pitch straight-blade type of vertical-axis wind turbine.

Vertical-axis wind turbines have attracted resurged interest across various levels, driven by inherent advantages such as omnidirectional wind acceptance, low acoustic emissions, reduced ...

The present paper investigates the aerodynamic and aeroacoustic characteristics of the H-rotor Darrieus vertical axis wind turbine (VAWT) combined with very promising energy conversion and steering ...

Vertical-axis wind turbines (VAWTs) have received renewed research interest in the offshore environ-ment due to a number of design synergies that have the potential to decrease the cost of energy for ...

The straight-bladed VAWT (SB-VAWT) is one of the most researched and studied VAWTs. In this chapter, the historical development of the SB-VAWT will be briefly reviewed firstly. Then the ...

Abstract: This work analyses the link between the geometry of a vertical-axis straight-bladed wind turbine and its performance (power coefficient). The geometry of a vertical-axis wind turbine cause ...

Part A. Journal of Power and Energy 210 (1): 65-74 Peng, H.Y.; Lin, Q.B.; Liu, H.J. 2025: Effects of aeroelasticity and wind direction on the aerodynamic characteristics and structural responses of ...

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