

In this research, we will demonstrate the effects of introducing rotor asymmetries in wake development and dynamics of tip vortex interactions in a cluster of two wind in-line turbines.

For efficient energy conversion in low wind speed and to have improved power coefficient of asymmetric blade VAWT, selection of optimum blade thickness is needed thus entailing its ...

In this paper, a numerical optimization of the asymmetrical airfoil blades of a wind turbine is presented. Response surface methodology (RSM) by using computational fluid dynamic (CFD) ...

Improved wind turbine performance depends heavily on the design and optimization of wind blades. This work offers a critical evaluation of the state of the art in the field of numerical ...

Computational result indicated that the geometry of the cavity vane has impacted the performance of the turbine due to its sharp-edged corner. the proposed geometry resulted in ...

Abstract: In this paper, using sliding mesh model, the numerical simulation of small vertical axis wind turbine aerodynamic performance was studied with FLUENT software.

The researched modeling will include the asymmetries, twists and variable thicknesses that are typical of modern wind turbine blades but also applicable to a wider range of structures ...

The purpose of this paper is to research the influence of asymmetric airfoils on the aerodynamic performance of vertical axis wind turbines. The influence of asymmetric airfoils on the ...

This paper investigates the aerodynamic characteristics and self-starting capabilities of Darrieus-type rotors with asymmetrical blades. The focus is on developing new blade designs to ...

The present study delineates how desired blade pitch improves the performance of asymmetric blade VAWT for sustainable power generation in the built environment.

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