OMICS Group
C o n f e r e n c e s
Accelerating Scientific Discovery

2nd International Conference and Exhibition on
Mechanical & Aerospace Engineering
September 08-10, 2014   Hilton Philadelphia Airport, USA

Numerical study of two-bucket savonius rotor cluster

M M Shaheen and **Shaaban Abdallah**
University of Cincinnati, USA

A Savonius wind turbine is simple in structure and has self-starting ability; however the efficiency of Savonius rotors is low. Numerous researches using Computational fluid dynamics (CFD) have been done in order to enhance the Savonius rotor performance. Recent studies indicate that interactions between Savonius turbines in a cluster result in increasing the output power of the individual rotors. In this study numerical solution are obtained for a cluster consisting of three turbines to determine the enhanced performance of the turbines. Different separation distances and relative phase angles between the rotors were studied, for future evaluation of periodic wind farms. The commercial computational fluid dynamics software FLUENT 14.5 is used for the numerical simulation.

Biography

M M Shaheen has completed his MSc in Mechanical Engineering from the Military Technical College, Egypt and he is now a PhD candidate at Department of Aerospace Engineering and Engineering Mechanics, University of Cincinnati.

mmzs_mtc@yahoo.com

J Aeronaut Aerospace Eng 2014
ISSN: 2168-9792, JAAE an open access journal

Mech Aero-2014
September 08-10, 2014

Volume 3, Issue 2

Page 93