World Academy of Science, Engineering and Technology
International Journal of Computer and Systems Engineering
Vol:9, No:04, 2015

Numerical Modeling of the Depth-Averaged Flow over a Hill

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Abstract : This paper reports the development and application of a 2D depth-averaged model. The main goal of this contribution is to apply the depth averaged equations to a wind park model in which the treatment of the geometry, introduced on the mathematical model by the mass and momentum source terms. The depth-averaged model will be used in future to find the optimal position of wind turbines in the wind park. K-E and 2D LES turbulence models were consider in this article. 2D CFD simulations for one hill was done to check the depth-averaged model in practise.

Keywords : depth-averaged equations, numerical modeling, CFD, wind park model
Conference Title : ICCSAM 2015 : International Conference on Computer Science and Applied Mathematics
Conference Location : Venice, Italy
Conference Dates : April 13-14, 2015