

Jordan University of Science and Technology

Flowfield around a partially-blocked Savonius rotor

Authors: Kotb, M.A., Aldoss, T.K.

Abstract: One way of power augmentation in the case of Savonius rotors is through preventing the upstream flow from reaching the upwind bucket. To gain more insight and a deeper understanding of this mechanism, a discrete vortex method was applied to the behaviour of a Savonius rotor with one bucket shielded. The flow around and past the rotor was computed. The wake characteristics are shown for two case studies; namely, rotating and stationary for a number of rotor angular positions.