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Simulation of Flow Around and Behind a Savonius Rotor

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Abstract

The fluid flow over a Savonius wind turbine rotor has been analyzed by using a multi-physics simulation program. The analysis accounts for fully flow simulation, the effect of rotation on flowfield in, around and far behind the turbine rotor. The aim of this investigation is to study the evolution of fluid contours and the velocity circulation. The flow distribution at various rotor tip speed ratios was studied at an air velocity of 10 m/s. Results obtained from the investigation have been discussed and analyzed.