Wind tunnel tests of an airfoil with 18% relative thickness equipped with vortex generators

Vortex generators have in recent years been used extensively on pitch regulated wind turbines. A new trend has been to use vortex generators on thinner airfoils on the outer part of the blades. However, not much data is available for thin airfoils with vortex generators. That is the reason to carry out wind tunnel tests on a NACA 633-418 airfoil with 18% relative thickness in the Stuttgart Laminar Wind Tunnel. The airfoil was tested in clean condition, but also with leading edge roughness and different heights and different positions of the vortex generators. Results of the airfoil performance in terms of polars, maximum lift and lift-drag ratio are shown with focus on how the vortex generators influence the performance of the airfoil.

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