

Title (en)

HINGED VORTEX GENERATOR FOR EXCESS WIND LOAD REDUCTION ON WIND TURBINE

Title (de)

SCHWENKBARER WIRBELERZEUGER ZUR REDUZIERUNG ÜBERSCHÜSSIGER WINDLASTEN IN WINDENERGIEANLAGEN

Title (fr)

GÉNÉRATEUR DE TOURBILLONS DU TYPE ARTICULÉ POUR UNE RÉDUCTION DE TOUT EXCÈS DE CHARGE DE VENT SUR UNE TURBINE ÉOLIENNE

Publication

EP 3055556 A1 20160817 (EN)

Application

EP 13780029 A 20131009

Priority

US 2013064060 W 20131009

Abstract (en)

[origin: WO2015053768A1] A vortex generator (VG) (42, 64, 80, 82, 84) mounted via a mounting plate (44, 92) to a wind turbine blade (22, 98). The VG airfoil (46) may be pivotally attached to the mounting plate by a spring hinge (48, 85) that causes the VG airfoil to passively deflect downstream in excess wind conditions to reduce lift on the blade above a predetermined wind speed. A blade pitch controller (99) sets a positive angle of attack on an outboard portion of the blade above the predetermined wind speed that compensates for lift reduction from deflection of VGs on an inboard portion of the blade. The spring hinge may provide a pivot axis (57) parallel to the suction side of the blade or normal (85) to it. A pivot limiter (58, 93/94) may hold the VG in an operating position against a spring preload, overcome by the predetermined wind speed.

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

See references of WO 2015053768A1

Cited by

CN112610411A; CN108223269A

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