

Title: Wind turbine blade grinding

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Research at the laboratory demonstrates the ability of a robot to trim, grind, and sand blades. Those necessary steps occur after the two sides of the blade are made using a mold and then bonded ...

To solve this problem, we propose a workflow for autonomous surface grinding of wind turbine blades. It includes damage analysis based on scans of the blade, subsequent trajectory ...

The simulation and experiments demonstrate the effectiveness of the proposed trajectory planning method for mobile robotic grinding wind turbine blade, the rationality of the optimization ...

NREL uses robots to trim, grind, and sand wind turbine blades, aiming to reduce labor intensity and increase consistency in manufacturing.

Robots can safely trim, grind and sand wind turbine blades. ARVADA, CO --Engineers at the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) are using robots to ...

Therefore, the robot needs to keep the grinding contact force constant in the complex operating environment. In this study, a constant force control device that is based on a pneumatic system is ...

Incorporating automation into wind turbine blade production has the potential to increase the viability of wind energy. The remainder of this work will focus on novel methods for automating ...

After flashing trimming, the leading and trailing edges have a small ridge that must be ground off to achieve the desired airfoil profile. The solution: capture the blade geometry as-built and process the ...

Why is wind turbine blade grinding important? The wind turbine blade is the most basic and critical component of a wind turbine. Its good design, reliable quality and superior performance are decisive ...

This precision grinding method allows blade damage to be removed with the utmost accuracy. This leaves the

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surface ready for a technician to reapply the balsa wood and fiberglass layers in order to ...

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