Wind turbine grinding

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 ...

In this study, the grinding path was first segmented, and an improved manufacturing material-removal model for grinding wind-turbine blade surfaces was established based on the blade ...

KAPP NILES offers customized products and technologies for the finishing of wind turbine gears such as planetary gears and jaw and pitch drive pinions.

Although robots have been used by the wind energy industry to paint and polish blades, automation has not been widely adopted. Research at the laboratory demonstrates the ability of a robot to trim, grind, ...

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 ...

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 ...

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.

This precision grinding method allows blade damage to be removed with the utmost accuracy. This leaves the surface ready for a technician to reapply the balsa wood and fiberglass layers in order to ...

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 ...

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