wakes for veering and backing winds in both hemispheres by means of large-eddy simulations. We quantify the sensitivity of the wake to the strength of win.

The pitch system adjusts the angle of the wind turbine"s blades with respect to the wind, controlling the rotor speed. By adjusting the angle of a turbine"s blades, the pitch system controls how much energy ...

Yaw systems take over the wind direction tracking of modern wind turbines. They ensure that the nacelle is always aligned exactly in the direction of the prevailing wind.

As the blade turns, air that flows across the leading edge appears as a separate component of the wind; thus, the apparent wind direction is shifted to oppose the direction of rotation.

It is very important to understand that the Coriolis force and wake rotation induced by the rotating blades of wind turbines have a very pronounced effect on the wake direction and, therefore, ...

To optimize performance under various wind conditions, modern wind turbines use pitch and yaw controls. The pitch of the blade (the angle between the chord line of the blade and the plane ...

The relative wind direction is almost entirely in the plane of the rotating blade, and hardly matches the direction of the distant incoming wind at all. Said another way, the wind is coming at you from a ...

In the case of wind turbines, the angle of attack changes along the length of a blade. The angle of attack is with respect to the blade, meaning, it is the angle at which wind strikes a blade as seen by an ...

All current-day wind-turbine blades rotate in clockwise direction as seen from an upstream perspective. The choice of the rotational direction impacts the wake if the wind profile changes direction with height.

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