
This study addresses the event-triggered (ET)-based stabilisation problem of neural-network-based control system (NNBCS) and illustrates the direct application to wind ...

Next-generation wind turbine control systems are evolving with intelligent automation, predictive monitoring, and grid-aware design to drive efficiency, resilience, and ...

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Aissaoui HE, Ougli AE, Tidhaf B (2021) Neural networks and fuzzy logic based maximum power point tracking control for wind energy conversion system. Advances in ...

In this paper, a neural network tuned controller for maximum power point tracking (MPPT) in wind energy conversion system (WECS) is proposed. This technique utilizes radial ...

Worldwide, offshore wind farms are growing in number and size as global demand for renewable energy increases. Additionally, the subsidies for wind power are ending. To keep pace, reliable ...

Unlike existing approaches, the proposed method integrates the control design and the communication considerations, ensuring asymptotic tracking of rotor speed under the ...

The paper explores topics of wind power plant harmonics, reviewing the latest standards in detail and outlining mitigation methods. The paper also presents stability analysis methods for wind ...

The performance of a wind turbine (WT) relies heavily on the control systems implemented on both the turbine side and the generator side. These systems deal with highly ...

Two major systems for controlling a wind turbine. Change orientation of the blades to change the aerodynamic forces. With a power electronics converter, have control over generator torque. ...

This paper proposes an advanced Load Frequency Control (LFC) strategy for two-area hydro-wind power systems, using a hybrid Long Short-Term Memory (LSTM) neural ...

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At the National Wind Technology Center, researchers design, implement, and test advanced wind turbine controls to maximize energy extraction and reduce structural dynamic ...

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The intelligent wind power network comprises the wireless network and optical fiber backhaul network of the wind turbine area, the wired and wireless networks in the booster ...

However, the integration of PV and wind power systems and power electronics-based loads introduces harmonic distortions, posing critical challenges to power quality and ...

Abstract Active power control (APC) is an effective way to deal with the instability problem caused by high wind energy penetration in power systems. This study presents a ...

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