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CERTIFICATE Of PARTICIPATION

This Certificate is Awarded to:

Labib BENSAADIA

for presenting a paper entitled: **Wind Farm Based Doubly Fed Induction Generator Using a Novel nonlinear for power control**

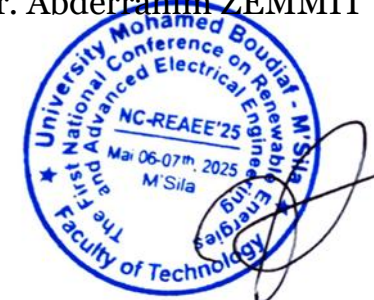Co-authors: *Riyadh ROUABHI, Djalaleddine KHODJA.*

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Wind Farm Based Doubly Fed Induction Generator Using a Novel nonlinear for power control

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Abstract:

Growing environmental concerns and attempts to reduce dependency on fossil fuel resources are bringing renewable energy resources to the mainstream of the electrical power sector [1, 2]. Wind power is one of the renewable energies that received more attention due to its clean and economical characteristics[3], Today variable-speed wind turbines have become more common than traditional fixed-speed turbines because of the more efficient energy production, improved power quality and improved dynamic performance during grid disturbances [4], To improve the performance of our WECS, a new control technique based on fuzzy type-2 regulators has been developed to improve the tracking characteristics and ensure the robustness of the system. This control provides instantaneous and independent control of the active and reactive powers produced by the double-fed induction generator (DFIG) in a wind energy conversion system. To implement the said control at the SEEA, we adopted the type-1 fuzzy logic control structure while replacing the type-1 fuzzy controllers with type-2 fuzzy controllers.

Key word: WECS, DFIG, fuzzy logic type 2, active power, reactive power, turbine

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