Review of: "Grid-secluded Induction Generator with ANN and Intreval Type-2 Fuzzy based Controller for Wind Power Generation with Smart Load Control"

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Potential competing interests: No potential competing interests to declare.

The authors suggested a hybrid approach (ANN + Type-2 Fuzzy system) for regulating the the load voltage of the induction generator (IG) output during changing loads or low wind speed conditions in a wind turbine.

The paper is well written and structured. However, I have the following comments:

1 - The first point is about the novelty. I think the main novelty is the hybrid controller (as authors claimed in the second item at the end of page 1). The authors claimed that the controller provides best regulation against load variation and incipient faults. The controller can also minimise short-time voltage oscillations. First of all, the authors have not justified why they have combined ANN with Type-2 Fuzzy system for regulating the output voltage. Using ANN and Type-1 (and Type-2) Fuzzy system in regulating the induction motor/generator is not a new concept. If the hybrid approach is novel, there must be a strong reasons for hybridisations which could add the complexity of the controller design, specially AI-based controllers which normally offer black-box design with no feasibility for rigorous stability analysis.

2 - When we are looking at the simulation results (Fig. 11, 12, 13, and 14), it seems that the controller regulate the inverter voltage output. However, the diagram in Fig. 2 suggests that the controller is setup for the bi-directional converter, which is normally a buck-boost converter. So the authors should be making clear in which point they have applied the proposed controller.

3 - The authors provided limited experimental results compared to the simulation results. First of all, similar experimental results to the Figures 11-14 must be provided so the reader can have a comparison. Moreover, several time response analysis must be provided in case of abrupt load variation and incipient faults. The provided scenarios are limited and cannot show the performance of the controller.

4 - Time-response analysis in different scenarios (cf. point 3 above) must be compared with the state-of-the-art controllers in this application. Normally a comparison with classical PI controller and a pure ANN controller will show how the hybrid controller can perform better. Although Table I provides a kind of comparison with the literature, the controllers in the papers [9][10][14] must be implemented so the reader can compare and study the time-based transient responses and judge the benefits of the proposed controller.

My overall assessment is that the authors should be given another chance to revise their paper and provided the above

items. Therefore, I would consider **major revision**.