Interactive comment on "An active power control approach for wake-induced load alleviation in a fully developed wind farm boundary layer" *by* Mehdi Vali et al.

Anonymous Referee #2

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The paper is difficult to follow. Nomenclature is not obvious, especially all the subscripts/superscripts. Simple verbal explanations of equations would help. I miss a good concise summary of the specific questions the paper is trying to answer, and the specific ways in which the paper advances the topic. The paper points out that only tower loads are looked at, which is reasonable as a starting point, but how accurately is this assessed? The paper gives ambient turbulence intensity of ∼5% and waked turbulence intensity of ∼15%, but wake turbulence is inhomogeneous, and this does not say anything about the way turbulence varies across and along the wake, or in multiple wakes, nor about the frequency content or length scales of the additional turbulence, all of which will affect tower loads. Does PALM actually deal with all this complexity

properly, so that the ∼5% and ∼15% are just given for interest? Equation (10): How does beta relate to the pitch and torque demands? A given beta can be achieved with different combinations of pitch and torque, and this affects loads. How does this relate to a practical wind turbine controller? End of section 3.2.1: "In such condition, the individual wind turbines should indeed operate at their optimal operating point, i.e., the greedy control": does this ignore the possible (admittedly disputed) potential benefits of wake induction control?

Editors: because the paper is hard to follow, I don't have time to complete the review as thoroughly as I'd like.

Interactive comment on Wind Energ. Sci. Discuss., https://doi.org/10.5194/wes-2018-70, 2018.