

Interactive comment on “Air Density Induced Error on Wind Energy Estimation” by Aurore Dupré et al.

Anonymous Referee #3

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I cannot see the value of this paper. The central equation applied to air density correction is taken from the IEC Standard and is widely applied by the industry. Despite this a number of papers have been published recently (eg Pandit, RK, Infield, D, Carroll, J. Incorporating air density into a Gaussian process wind turbine power curve model for improving fitting accuracy. *WindEnergy*. 2019; 22: 302–315.) that demonstrate more accurate approaches. These should not be dismissed as in this paper on the basis that they require a degree of computation.

The density correction equation (4 in the paper) is only to be applied below rated power for pitch controlled turbines (the norm these days). The equation is an approximation and a detailed study of the errors involved in its application across a range of wind farms exposed to widely differing air density would be of research interest.

One minor comment: the first part of the paper compares computed air density with

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measured values. But what are these measured values; and how are they obtained since direct measurement of air density is difficult to undertake.

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