

## ***Interactive comment on “Brief communication: Extraction of the wake induction and angle of attack on rotating wind turbine blades from PIV and CFD results” by Iván Herráez et al.***

### **Anonymous Referee #1**

Received and published: 28 October 2017

Review on the manuscript entitled “Brief communication: Extraction of the wake induction and angle of attack on rotating wind turbine blades from PIV and CFD results” by Herráez, Daniele and Schepers

The manuscript presents a method for determining the angle of attack on rotor blades using data from both experimental and CFD computational results. The method uses velocity data probed at the “counterbalanced” locations, i.e. along the “bisectrix” lines between the blades which are located at very long distances (for example at  $r/R=80\%$  the distance is about 16 chords) from the candidate blade. Since the wake induction has the non-uniformity in the rotor plane due to the wake, the obtained “AOA” cannot

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represent the true AOA at which the blade experiences. Thus, this reviewer cannot recommend the manuscript for publication.

Specific comments: 1. Page 1, Line 5: “although their application has been restricted to numerical results”. This is not true. From this reviewer’s knowledge, Shen et. al., 2009 was used for determining the AOA on rotating blades using the MEXICO measurement data (Wind Energy 2011, Vol. 14(4), pp.539-556). 2. Page 2, Line 14: “ $u_{ax}$ ” and “ $u_{tan}$ ” are not constant in the rotor plane. “undisturbed” is not appropriate. 3. Line 52: “at just one single arbitrary control point of the rotor plane”. This is not true. In the method, one control point was used for each blade cross-section and the selection was not “arbitrary”. 4. When PIV data is used, is the velocity data extraction only made when the blades at specific azimuth positions, i.e. when the PIV location is a “bisectrix”? Any averaging was performed?

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Interactive comment on Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2017-43>, 2017.

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