

# ***Interactive comment on “Remote surface damage detection on rotor blades of operating wind turbines by means of infrared thermography” by Dominik Traphan et al.***

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Received and published: 10 May 2018

This is an interesting paper. The potential application of IRT in surface (or even internal) damages of blades is significant. This study provides some good knowledge on this important issue. All comments are summarized as follows and they can be also found in the attached document.

Major modification needed for improvement is:

1. Please clearly define the objectives and scopes of the work. Right now, the power loss due to surface damages should not be the focus of this study. 2. the simulation

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part on rotor blades does not serve the main objective of this study and should be reconsidered and preferably a coupled aerodynamic and thermal analysis should be conducted. 3. Some wordings are not accurate and need to be rephrased.

Comments requiring minor revisions:

1. Abstract: Not clear. What kind of nonlinear interaction you are referring to? 2. Too many keywords. 3. P2. line 7: This is not an accurate term. 4. Fig. 1: Please provide more information of this picture, such as how this picture is taken? what are the surface defects? what is the ambient temperature? etc. 5. P3, line 3-4: What condition? What do you mean by saying 'average'? 6. P3, line 10: This paper is weak on this part. The studies presented on rotor blades only focus on aerodynamics and there is no quantitative link between air flows and thermal footprints. In addition, the studies on power loss do not contribute to the main purpose of the work as emphasized by the title of this manuscript. Ideally, a coupled aerodynamic and thermal simulation should be performed. 7. Fig. 6: Please add the legend for IRT image.

Please also note the supplement to this comment:

<https://www.wind-energ-sci-discuss.net/wes-2018-22/wes-2018-22-RC1-supplement.pdf>

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Interactive comment on Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2018-22>, 2018.

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