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Interactive comment on "Low-order modeling for transition prediction applicable to wind-turbine rotors" *by* Thales Fava et al.

Anonymous Referee #3

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This article presents a simplified method to predict/analyze the onset on laminar to turbulent transition on a fully 3D wind turbine blade. First the boundary layer equations are solved using an approximation for the external (ie at the boundary layer edge) spanwise velocity. Secondly, the stability of the obtained boundary layer mean velocity profiles is analyzed using a Parabolized Stability Equation (PSE) approach including rotation terms. This "tool" appears as very powerful since it only requires pressure distribution on dedicated spanwise sections which can easily be obtained with a code such as Xfoil based on panel method. Stability and transition prediction results are obtained for two blade geometries and compared to RANS computations integrating a database transition prediction tool. The influence of the rotating velocity on stability and transition location is also investigated. These results are very interesting and

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Discussion paper

convincing. Moreover, it should be noticed that the article is well written and organized so that it is really pleasant to read. For these reasons I strongly support the article for publication.

See the attached file containing a list of remarks/suggestions the authors should consider before publication.

Please also note the supplement to this comment:
https://wes.copernicus.org/preprints/wes-2020-107/wes-2020-107-RC3-supplement.pdf

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