

Interactive comment on “OpenOA: An Open-Source Code Base for Operational Analysis of Wind Power Plants” by Mike Optis et al.

Anonymous Referee #1

Received and published: 25 April 2019

This discussion paper is very interesting, presenting an open source software for the operational analysis of wind power plants. The development of OpenOA is following the best practices in terms of software development using tools such as a unit test and a well-maintained repository. OpenOA looks to be developed seriously, well documented and maintained.

The authors are making an accurate portrait of the industry’s situation regarding the variety of methodologies used for the operational analysis of wind power plants. Right now, there is no adopted standard across the industry. There is also no consensus around best practices, specially for evaluation of performance improvement such as vortex generators.

However, the scientific contribution presented in the paper is limited. There are no new

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wind power plant operational analysis methods presented. However, the paper clearly shows OpenOA's potential to act as a framework to allow some new operational analysis method development. Some discussion around the operational analysis methods would have been expected in a research paper.

It would be interesting to present the process used to choose which method to implement in OpenOA in the development process as the authors a trying to position OpenOA's toolkits as a set of best practices. For example, what process did the authors used to choose which power curve calculation methods to implement? Figure 3 is showing that the IEC, the spline and the L5P method have been implemented. However, there is a lot of literature on power curve calculation methods. Are the authors performing the any literature review or benchmarking study behind this work? These literature review or benchmarking studies would be interesting for the whole industry. This work should be presented in the paper.

In section 2.1 the authors a presenting the software architecture listing the data structure attributes within the Plant Data module. How does OpenOA accounts for the variety of format in the operational data? Format of outputs data of sources such as SCADA, revenue meter and met masts are multiple. There is a variety of database and data historian used in the industry. Also, was OpenOA developed to consider a variety of status code and event log data format? Status code format are unique to each wind turbine OEM and also across version of the software controlling the wind turbines.

The authors are presenting at Table 2 their plan for the enhancement, expansion and outreach of OpenOA. They are performing their work the all the best intentions, and they are some example of good success with open source software as they mentioned in section 1.3. However, some proprietary software are available on the market and some are already presenting more features than OpenOA. It would be interesting to have more details on how to rally the industry around their work.

Interactive comment on Wind Energ. Sci. Discuss., <https://doi.org/10.5194/wes-2019-12>, 2019.