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Comment on gmd-2021-241

Roberto Sommariva

Community comment on "A description of the first open source community release of MISTRA-v9.0: a 0D/1D atmospheric boundary layer chemistry model" by Josué Bock et al., Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2021-241-CC1>, 2021

The manuscript "A description of the first open source community release of the 1D atmospheric chemistry model MISTRA-v9.0 " by Bock et al. presents the open-source release of the Mistra model. The model has been used previously in a number of publications, but the code has never been made public before.

There a number of substantial and serious issues with regard to the authorship, financial information and licensing of this manuscript and of the code that it describes. These issues -- outlined below -- must be addressed and resolved before review is allowed to proceed, in keeping with the ethical and scientific standards of GMD.

Authorship

As indicated in section 1.2 of the manuscript, Mistra was developed in the 90s by Andreas Bott (one of the authors) and subsequently modified by the late Roland von Glasow starting from 2000. The manuscript focuses on the branch of Mistra which has been developed and used by Roland until his passing in 2015. During these 15 years, the model has been closed-source and many of Roland's colleagues and co-workers have contributed to it. While most of the work after 2015 has been done by J. Bock (the first author) with the aim to prepare the open-source release, the code and documentation that are presented in the manuscript are the results of 15 years of continuous development by several other people under Roland's lead.

For example, Rolf Sander has contributed to the initial work on the chemical mechanism (including the aerosol chemistry component), on the adaptation of KPP -- and development of KPP itself -- and on the photolysis module. Susanne Pechtl, Matthias Piot, Linda Smoydzin, Peter Brauer and myself (I note that I am acknowledged as co-author in the zenodo archive, but not in the manuscript, which is odd) also made contributions at different times and of various importance. This is only a partial list from a quick overview of Roland's work: I am sure that a careful examination of the code and of Roland's publications will yield other names. It is true that several of these former contributors may have moved on, or left science, and some may simply not care anymore, but it is important that their work is recognized nevertheless.

This manuscript does not present an update to an already published model. It aims to

describe the model code in its entirety for the first time, and authorship should reflect this. Former contributors should be offered co-authorship, and given the chance to comment on the manuscript before the review process can continue.

Acknowledgements

Other people's contributions to this project should be acknowledged: Claire Reeves, Jennie Thomas and Kerri Pratt all played a significant role in the decision to release the model as open-source, after Roland's passing. Relevant contributions by co-workers or colleagues of A. Bott should surely be, at the very least, acknowledged.

The manuscript presents simulations of the current version of Mistra using settings from Joyce et al. (2014) Buys et al. (2013) and Buxmann et al. (2015). Have the authors of those paper provided information and/or assistance in setting up these simulations? If so they should be acknowledged as well.

Author contributions

This section of the manuscript should be amended to reflect the changes in authorship and in the Acknowledgements section. The project lead should be clearly, and rightfully, identified as Roland von Glasow.

Financial support

The financial support information in the manuscript indicates that the EUROCHAMP-2020 program has supported the project. This is true for the last few years but, as mentioned above, the model has been developed over a period of 15 years and in this time it has been funded by several other agencies, listed on Roland's archived web page at <https://archive.uea.ac.uk/~fkd06bj/>. All funders must be equally recognized, as per GMD guidelines.

License

The authors have adopted the open-source licence EUPL, a choice that strongly implies that the project has been EU-funded. As pointed out above, this is true for the most recent part of the work, but several other funders have supported the development of Mistra over the years, some for much longer than the EU. My personal view is that a GPL license would be more appropriate, as it would reflect the international character of Mistra project and not suggest undue implications as to its financial support.

More importantly, the choice of the license has never been agreed upon or even discussed among the developers, other than between the authors of this manuscript. If the authors believe that the EUPL is an appropriate choice they should state their rationale, but in any case it is essential that all contributors to the Mistra project should be given the opportunity to discuss and approve the choice of the license (together with the rest of the manuscript).