

Geosci. Model Dev. Discuss., referee comment RC1
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Comment on gmd-2021-342

Anonymous Referee #1

Referee comment on "SMAUG v1.0 – a user-friendly muon simulator for the imaging of geological objects in 3-D" by Alessandro Lechmann et al., Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2021-342-RC1>, 2021

Dear editor and authors, the paper describes an user friendly development of a muon tomography simulation framework.

The paper is clear, the objectives are sound and well described, and the contribution of this work is worth publishing.

As a general comment, I would suggest to shorten the paper and move some technical part and reference to the python code in the Appendix.

For instance I would suggest to move Section 4 into an Appendix F.

I would also suggest to shorten Section 5 and focus on the geophysics only in this Section, since it is the main target of the paper. Section 5.1 may either be included into Section 2.2 in a shorter form, or move to the Appendix as well.

A Figure to explicit the different variables in Section 2.1 would be nice.

On the formal aspect, there are 2 conventions for the authors citations. Either : (Author et al, date) or : Author et al (date). Please unify.

Some typos:

- l. 55 -> suppress "we aimed at".
- l. 220 -> "In order to..." -> incomplete sentence
- l. 404 -> "MCMC" not defined before
- l. 474 -> "Algorithm 1" -> there is no 2

Best regards