

# ***Interactive comment on “PDE-NetGen 1.0: from symbolic PDE representations of physical processes to trainable neural network representations” by Olivier Pannekoucke and Ronan Fablet***

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We would like to thank the referee for his/her comments. To answer to some of his/her questions:

*Q: The authors may include some information about the orders of accuracy available in their software*

*A: The finite difference used here computes an approximation of any derivative at the second order of consistency (i.e. the approximation is equal to the true derivative plus*

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Discussion paper



an error of order  $O(dx^2)$  ). This will be made clearer in the revised version of the manuscript.

*Q: Do authors intend to say that the choice of  $a, b, c = (1, 3/4, -2)$  is not based on a ground truth*

*A: The closure is obtained when the local correlation function is approximated by a Gaussian correlation function. Hence, this relies on a theoretical ground but with an approximation for the correlation, so it is not the truth. An appendix has been prepared to explain this for the self-consistency of the manuscript.*

We have a question concerning the comment (4):

*On line 135 the authors intend to show that the solutions converge. The authors may consider supplementing the information with  $dt$  of the time-integrator so that the error has a sense of scale.*

It is not clear to us, we understand the referee wants the value of  $dt$ , is it what he/she wants ? In our experiments, the value of  $dt$  is set to 0.0016.

We start to prepare a revision of the manuscript considering his/her comments.

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