The requested changes are as follows:

**Page 10, Equation 24:**

Eq.24: 'V' should be 'V\_u' in the right hand side, some of the \_u are missing (as in Eq.21).

Explanation: Eq. (24) corresponds to Eq. (21) where the term E[\eps \pdx^4 \eps] has been replaced by Eq.(23). But in Eq. (24) we the subscript \_u of V\_u was forgotten in the right hand side. This is a typo of us. We ask to add the missing subscript \_u where it is missing in Eq. (24), in the first and the second equation (the third equation is correct), so it corresponds to the first and second equation of Eq. (21).

**P. 11, line 12:**

p11l12: there is an inconsistancy when we quote the work of Pannekoucke and Fablet (2020). This should be "a^4 = (2a, 4b, 2c) where (a,b,c) = (0.93, ...).."

Explanation: In Pannekoucke and Fablet (2020), the dynamics Eq. (21) is written using the so-called diffusion tensor ($\nu$), defined as half of the aspect tensor ($s$) which is used in the present contribution ie $s = 2\nu$. And the equivalent of our present Eq. (21) is Eq. (A1) we join the snapshot in attached.

When we wrote the present contribution, we chosed to formulate our equations in term of aspect tensor ($s$), which implies a scaling of the equation presented in Pannekoucke and Fablet (2020) presented with ($\nu$). We do not detail the reasons of this choice in the present manuscript, this is because the "diffusion" $\nu$ was related to a particular covariance model (the covariance model based on the diffusion equation, where $\nu$), and we prefered to enlarge the formalism to a more general framework (VLATcov models). We prefered not detail the reason of this change here so to avoid any confusion in the present contribution.

This change of notation has no effect on the present manuscript which is consistent, execpt when we refered to the numerical values of Pannekoucke and Fablet (2020), as it is the case for TS2.

Thus, the modification we ask for, results from the translation of Eq. (A1) in P&Fablet 2020 (written in $\nu$) to the Eq. (21) (written in $s$), where $\nu$ in Eq. (A1) is replaced by $s/2$ to obtain Eq. (21).

Hence, you can check that with the scaling we ask to add, in the numerical validation, it remains to transform a^4=(2a,4b,2c) when written in $s$ (Eq.21) into (a,b,c) when written in Eq. (A1).

This modification has no influence in the work we present, but it is important for scientists that want to validate our work numerically, and we prefered to correct this since we have seen it during the typesetting stage.

Another possible change is to write $a^4\approx (1.86, 3.0, -3.6)$ without indicating the bounds for the error. For the reader, this would avoid to ask himself the reason of these scaling terms. And here, we can consider that the information about the bounds of the error estimation is not relevant.

May be this second possible change is better for the reader (without change on the science behind).

If you agree with that, the instruction for the change would be:

In p11, line 11, replace :

"a 4 \approx (0.93, 0.75, −1.80) ± (5.1 10 −5 , 3.6 10 −4 , 2.7 10 −4 ) (es- timation obtained from 10 runs)"

by :

"a 4 \approx (1.86, 3.0, −3.6)"

Text, letter

Description automatically generated