

Dear Drs Feng Liu and Xin Li,

After reading this new version of your paper, I still have a few suggestions for modifications (page and line numbers refer below to the version of the paper in which you have included explicitly, in red, your latest modifications).

1. P. 6, Eq. (4). $x(t)$ is here an Ito process, just as $I(t)$ before. I suggest you use the same notation.

2. P. 6, l. 30. ... *the well-accepted Bayesian theory of data* assimilation.

3. P. 13, l. 4. The two equations on this line state the same result for two different arguments s_x and s_y . Actually, in view of the eqs (15) and (16) that follow, I think the corresponding sentence is useless. The sentence *These formulas prove ...* can be put after Eqs (15) and (16).

4. P. 13, l. 24. I understand x in $H(s, x)$ is the same thing as X before. Use the same notation.

5. It seems that, from the last line of p. 14, σ_x is assumed to be equal to 1. Why not keep an explicit σ_x ?

6. P. 16, l. 1. Why not put an absolute value for the variance of X (and remove the sentence *It should be noted ...*) ?

7. And, finally, change the first line of acknowledgments to *We thank the editor, Dr Talagrand, and ...*

With regards,

Olivier Talagrand

Editor

Nonlinear Processes in Geophysics