

## ***Interactive comment on “A local particle filter for high dimensional geophysical systems” by S. G. Penny and T. Miyoshi***

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We thank the reviewer for the comments, particularly for pointing out the useful references.

Upon the reviewer's suggestion, we will include references to (Atkins et al., 2013), (Jardak et al., 2000), and (Xiong et al., 2006).

In particular, we note the potential value of the work of Xiong et al. (2006) which is related to the ETKF and may provide an alternative approach to the common SIR method for generating particle estimates for the posterior distribution.

We find the work of Jardak et al. (2000) is worth noting given that their findings support our general premise that the EnKF with localization works well in the case of a linear

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observation operator but has major difficulties with nonlinear observation operators.

The work of Atkins et al. (2013) is of interest as a promising extension of the use of an importance density, which we have mentioned may help to improve our PF implementation, and connects nicely with the existing infrastructure of variational solvers used by most operational centers.

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