

Interactive comment on “Forecast error covariance structure in coupled atmosphere–chemistry data assimilation” by S. K. Park et al.

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The authors examine an ensemble based coupled atmosphere-chemistry forecast error covariance matrix in the context of WRF-Chem model. A synthetic single observation test is carried out and the results are discussed in terms of cross-variable components of a coupled error covariance. The procedure is clear and well-defined as well as the structure of the paper. There is no major complains regarding the grammar. I would recommend to accept this paper but I will address the next questions to the authors:

1. How well your idea scales regarding the dimension of the model? Observations? 2.

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What happen in the context of realistic scenarios? For your reference, here I cite two:
* SPEEDY Model: <http://www.ictp.it/research/esp/models/speedy.aspx> * QGCM Model:
<http://www.q-gcm.org/>

Interactive comment on Geosci. Model Dev. Discuss., 7, 8757, 2014.