Dear Editor,

Thank you for passing along this final feedback. We have responded to the Referee #1's suggested edits below (the referee comment is bolded and italicized with our responses following in un-altered font) and have highlighted the changed text in blue in the corresponding updated manuscript.

The title and the introduction restrict the scope of the note to 4D-Var, but this is not mentioned at all in the abstract. I would suggest slightly modifying the abstract to clarify this.
We have added "4D-Var" to parts of the abstract describing the data assimilation task.

Line 143: "Since the forward model A is only known implicitly via a computer simulator, making direct use of Equations (7) and (8) is intractable." It may be worth making this statement sharper by saying "numerically intractable", since its already been stated that it is analytically tractable.
We appreciate the suggestion and have added "numerically" to be more precise.

Lines 180-184: "As described in Chiles and Delfiner (2012), this sampling method is able to sample from complex conditional random fields if one has access to a simulator with the same covariance as the distribution of interest." More precisely, the method in question requires that unconditional simulations can be made from the appropriate distributions; the method then can turn these into conditional simulations.
Thank you for the clarification. We have added some wording to more precisely make the connection.

Line 195: the vector h here (and elsewhere) is bold but it is in italics, which is inconsistent with other vectors
We have changed all instances of the h vector to be consistent with other vectors. All changes have been highlighted in blue.

Table 1: the capitalisation is inconsistent in this table (e.g., "Control vector" in one line, "Observation Noise" in another)
We have normalized the capitalization in Table 1 as suggested.

We again appreciate your feedback and consideration.

Sincerely,
Michael Stanley, Mikael Kuusela, Brendan Byrne and Junjie Liu