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Interactive comment on "Singular vector based targeted observations of chemical constituents: description and first application of the EURAD-IM-SVA" *by* N. Goris and H. Elbern

Anonymous Referee #2

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This is a very interesting study that is focused on computing optimal sensor placement and determine optimal quantities of interest to be measured using singular vectors for atmospheric chemical constituents. These developments are applied to an air pollution model.

Major comment(s):

Section 2.2 is ambiguously written. First we see a new equation (10) (note that f is not defined) that does not seem to be connected to the preceding equations. The definitions and the discussion around equations (12)-(15) are not clear. The augmentation of c and the introduction of tilda c in terms of another tilda c not previously defined is

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very confusing. I assume that tilda c is defined in (12), but still. This is the main basis of this work and should be crystal clear.

In Sec. 3.1 we find a new model (16) that fits in (10) but it is somewhat disconnected from (1).

Please clarify the mathematical ansatz well.

Minor comments:

1- I do not understand the implication on page 6268 (l 16-18): "Since the considered [...] correctness" Please clarify.

2- p 6270 l 10 What is a "chemical weather prediction"?

3- p 6272, eq 1: If M is not linear it should be defined as a function M(...)

4- p6272, l 13-14. There is a repetition of \delta c. The sentence needs to be clarified.

Interactive comment on Geosci. Model Dev. Discuss., 8, 6267, 2015.

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