

Interactive comment on “Source apportionment and sensitivity analysis: two methodologies with two different purposes” by Alain Clappier et al.

Anonymous Referee #1

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General comments The paper present an interesting research about the difference between source apportionment and sensitivity analysis, supported by theoretical examples, and helps clarifying the purpose of each approach and when it should be applied. The paper is in general well-written and structured with references supporting it. Only minor changes and some specific and technical comments are suggested before publication.

Specific comments Introduction: This section is poor on references and state-of-art about the subject (source apportionment and sensitivity analysis methods). The authors should improve this section refereeing what have been done already by other authors about these two methods and the assessment of “contribution” and “impact”. Lines 41-48: a reference to support this statement is missing and is necessary Line

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373: please introduce the regimes that are will be analysed in the following sections Line 667-676: Figure 4 should be refereed/introduced in the text Line 735: Figure 5 should be refereed/introduced in the text Lines 768-798: This text (or at least part of that) should be placed at Conclusions section Lines 801-810: This text should be placed at the “Introduction” section Conclusions: Authors should revised this section: part of that is state-of-art, other is too much detail about what was done and finally the last part should be part of the discussion of results. This last section (Conclusions) should be a summary of what was presented before and not enter in detail in what was done and obtained.

Technical corrections: typing errors, etc.). Line 18: Define DDM Line 23: Rephrase this sentence: the use of vice-versa in the middle of the sentence it is not clear Line 92: authors instead of “Authors” Line 114: missing the year on “Clappier et al” Line 156: write “precursor’s emission” instead of “emission precursors” Line 167: missing the year on the reference “Stein and Alpert” Line 307: replace “paragraph” by “section” or “chapter” Line 437: “computed by the difference” Line 679: Figure 4 instead of figure 3 Figures: it is not used the same format for the captions Line 721: “production” instead of “productions” Line 741: Figure 5 instead Figure 4 Line 752: Figure 6 instead Figure 5 Line 753: The text (analysis and interpretation of the results) should be after Figure 6 Line 764: Figure 6 instead Figure 5 References: they are not all in the same format (very different formats are used among the list of references) and not by alphabetic order Line 884-886: this paper is still in preparation. . . should not make part of the list of references

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