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www.atmos-chem-phys-discuss.net/15/C11391/2016/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Passive air sampling of gaseous elemental mercury: a critical review" *by* D. S. McLagan et al.

Anonymous Referee #1

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This manuscript reviews the "state" of passive sampling for monitoring of gaseous elemental mercury in air. It suggests that development of passive air samplers (PASs) for gaseous elemental mercury is needed and that PASs in the foreseeable future may be useful as a complementary technique in remote regions and in developing countries. Many previous studies have reported different PASs for GEM, but there is still a lack of researches regarding the levels of accuracy and precision sufficient for requirements of PASs. Meanwhile, studies on atmospheric mercury source identification and the recording of personal exposure to GEM would be improved. These issues are extra necessary and in good application to the network of global mercury monitoring. I feel there is full contribution, including the contents and perspectives, from this manuscript to the authors. Therefore, I suggest that this paper should be published in the journal

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Discussion Paper

of Atmospheric Chemistry and Physics in case of the comments are addressed by the authors.

Minor comments are listed below: Most of readers would be appreciated if you could,

1) Summarize and simplify the contents. Introduction There are a lot of references cited in the first three paragraphs.

6.3 “Do existing gaseous elemental mercury. . .” The last two paragraphs (Line 27 of page 34625 to line 3 of page 34627) mention the memory effects on sampler accuracy. All of them derive from the same reference, Brown et al. (2011). Also, the whole paragraph in 7.2, “Lessons from active monitoring”.

2) The same capitalization applies to table titles. For example, “Diffusive barrier” should replace with “Diffusive Barrier”.

3) This paper was well organized, but I still find many confusing or complex sentences. In Figure 1, headings titles of page 34641, “Initially the SR is constant and analyte uptake will be linear (or near linear) and the sampler can be described as being in the effective deployment period.”

4) Error bars should be added in Figure 3.

Please also note the supplement to this comment:
http://www.atmos-chem-phys-discuss.net/15/C11391/2016/acpd-15-C11391-2016-supplement.pdf

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Interactive comment on Atmos. Chem. Phys. Discuss., 15, 34605, 2015.