

Interactive comment on “Development and Testing of a Passive Sampler for Measurement of Gaseous Mercury” by Ingvar Wängberg et al.

Anonymous Referee #1

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This paper describes development of a passive sampler for Hg using activated carbon. The manuscript is a bit “sloppy” in terms of presentation and I have questions regarding the methods and results. There is no research hypothesis and tests have been inconsistently applied. Data from Figure 6 is not really valid for testing the passive sampler, because they use the passive sampler as an active sampler. There are no data to support the last statement in the abstract.

Introduction, first paragraph, “which” should be “that”. This paragraph is poorly referenced. GOM can be much more than 2%. The word “severe” is a little extreme. AMAP ref date is 2103? 3rd paragraph and first sentence “of” should be “for”. McLagan ref is 1016? How do they know the sampler is collecting only GEM? Experimental section First paragraph there are capitalization issues. Hg measured by the Tekran 2537/1130/1135 are operationally defined compounds not species. You do not know

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whether the 2537 was measuring GEM or TGM see Gustin et al., 2013 EST. The exact configuration of the Tekran system at each location needs to be described. How long were samples collected at Rao? Second paragraph- why not a consistent number of days? Third paragraph- how is this instrument calibrated? How were the Tekrans calibrated? Fourth paragraph. Needs references for first sentence. There needs to be tests to demonstrate the influence of wind speed. It seems that these have not been adequately tested and there is speculation regarding temperature affect. Tests are needed. Last paragraph. This is not really a test of the passive system. Given the lack of tests and systematic measurements this work does not really advance science and there is no evidence based on the limited data that this can be used as a dosimeter.

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