

Interactive comment on “The effects of meteorological parameters and diffusive barrier reuse on the sampling rate of a passive air sampler for gaseous mercury” by David S. McLagan et al.

Anonymous Referee #1

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Review McLagan et al. This paper reports on work towards development of a passive sampler for gaseous Hg. The paper reports on tests to determine the impact of meteorological parameters on the sampler. They found that RH did not affect the sampling rate and it increased slightly with wind speed. They also assess the utility of reusing Radiello sampler housings.

In general I do not think this paper is of sufficient quality and novelty to be considered for publication in AMT.

I do not really understand the part of the sentence that starts with “with” just does not

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make sense so I would eliminate. Also is the resolution of this sampler sufficient for collecting meaningful data around the globe given the limited variability in concentrations outside of contaminated areas?

Pg 6 Methods section It appears they had no simultaneous replication and the experiment seems quite crude there is no n and just looking at parallel wind speed is not sufficient.

The temperature range tested is extremely low as is the relative humidity. Also, the temperature and relative humidity reported in the methods is not consistent with the abstract.

Pg 7 I do not really understand what they mean by replicated 5 times. Were 5 samplers deployed or was one sampler deployed in the center of the chamber or are there 5 chambers with the exact same conditions?

Pg 9 line 268 needs a reference and R2 should be r2 and there should be a p value and n

P 14 line 337 self-citation in not appropriate here and in multiple other places in the paper. i.e. pg. 18 line 419

Pg 16 line 373 porosity of sampler housings has been demonstrated to be impacted by acid cleaning. How many times were the samplers subjected to these treatments?

Sampling rates should be compared to those in other papers

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