

Interactive comment on “Air–surface exchange of gaseous mercury over permafrost soil: an investigation at a high-altitude (4700 m a.s.l.) and remote site in the central Qinghai-Tibet Plateau” by Zhijia Ci et al.

Anonymous Referee #2

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The manuscript “Air–surface exchange of gaseous mercury over permafrost soil: an investigation at a high-altitude (4700 m a.s.l.) and remote site in the central Qinghai-Tibet Plateau” by Ci et al. brings important new information about air-surface exchange patterns and mechanisms in a very specific environment for which such information is missing in scientific literature. In the light of changing environment and future global Hg cycling, this information is of paramount importance.

General comment: In general, the manuscript is well structured, information properly presented and appropriate conclusions drawn. As such, I believe it merits the criteria

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to be published in ACP.

Here are some specific suggestions that might help to improve and strengthen the clarity of this paper: - Abstract: some numbers should be included in the abstract, e.g. about the magnitude of fluxes etc. - Line 23: What is relatively long timescale? Try to be more specific. - Line 31: What are favorable conditions? Perhaps first part of the sentence should be removed, as these conditions are discussed in detail later on. - Lines 93-108: This part is too general and should be significantly shortened or completely removed. - Line 144: Be more specific about soil plot/lithologic unit studied. - Lines 235-241: This part is too general and should be shortened or moved to the Introduction. - Lines 241-248: This part belongs to section 2.1 - Lines 270-283: This part belongs to the Method section. - Lines 452-453: What exactly you mean with “large uncertainties”. Perhaps you should elaborate a bit more on this. Technical/linguistic comments: - Line 227: Remove “in” before “below”. - Line 254: I suggest replacing “Investigators supposed...” with “Previous studies...” or similar. - Lines 249-253: I suggest rephrasing and combining this information in one sentence. - Line 445: Replace “improve” with “increase” or “enhance”. - Figure 1: scale should be included.

Interactive comment on Atmos. Chem. Phys. Discuss., doi:10.5194/acp-2016-515, 2016.

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