

Dear Authors,

Your paper titled "Atmosphere–ocean exchange of heavy metals and polycyclic aromatic hydrocarbons in the Russian Arctic Ocean" is interesting. I believe the data can be fill the gap of net input/output of these substances originating from both anthropogenic sources and natural sources. The clarification and structure of the paper is clear and generally good. I have some questions concerning to this paper.

1. How far the samples were collected between two sample sites?
2. How authors choose these sites?
3. Authors mentioned the atmospheric mercury depletion events (AMDEs) of Hg in the paper, so were there any sites collected during the sunrise in spring season?
4. Do authors try to avoid this time?
5. Were Dissolve Organic Carbon(DOC) and the concentration of surface chlorophyll same sample as the water?
6. How authors can make sure the corresponding the water sample to air samples?
7. Authors calculated the atmospheric oxidation of PAHs initiated by reaction with the OH radical in gas phase?
8. Is it possible to be also degradable in the particle phase?

Best regards,

Chunlan Li