



## Comment on acp-2021-623

Anonymous Referee #3

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Referee comment on "Long-range transport of anthropogenic air pollutants into the marine air: Insight into fine particle transport and chloride depletion on sea salts" by Liang Xu et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2021-623-RC3>, 2021

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The study reports the observation of aerosol particles collected in the East China Sea (ECS) and the northwestern Pacific Ocean (NWPO) onboard a research vessel. TEM was applied to investigate the physicochemical properties of the aerosol particles over the ocean. The authors reported that more anthropogenic particles were found in the ECS than NWPO, and they further discussed the Cl-depletion in the sea salt particles. This paper provides valuable information for understanding the influence of long-range transported anthropogenic pollutants on the marine environment. The paper addresses relevant scientific scope within the scope of ACP. I would like to suggest it to be accepted for publication after some minor revisions.

Comments:

1. Line 72 and Lines 99-100, Please rewrite these sentences for an easy way to understand.
2. Lines 126-132, the authors should clarify how they chose the observation areas on the TEM grids for the TEM analysis.
3. Lines 177-180, please explain in a detailed way about the classification of internally mixed particles.
4. Line 180, it would be better if the authors briefly define anthropogenic aerosols at first.
5. Line 234, a "." is missing in the "e.g.,".
6. Figure 8, 0.7-0.9 and 0.5-0.7 in the x-axis are reversed.
7. Further description on Figure 9 should be provided in the main text.