



EGUsphere, referee comment RC1
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Comment on egusphere-2022-30

Xuchen Wang (Referee)

Referee comment on "Variations in dissolved and particulate organic carbon dynamics in the lower Changjiang River on time scales from seasonal to decades" by Yue Ming et al., EGU sphere, <https://doi.org/10.5194/egusphere-2022-30-RC1>, 2022

This study investigated the monthly variations of particulate and dissolved organic carbon (POC, DOC) in the lower Changjiang River. The used stable carbon isotope approach combined with concentration measurement and ultrafiltration technique to elucidate the sources and seasonal variations of POC and DOC in the river as related to the discharge and possible influence of human activity and climate changes in the river. This is an interesting study and it provides valuable new information for our understanding of the sources and dynamics of terrestrial organic matter transported by the Changjiang River which is one of the largest rivers in the world and has great influence on the carbon cycling and biogeochemical processes in the East China Sea. Overall, it is a nice paper and I like to see its publication in Biogeosciences after some minor to moderate revision. The following lists some suggestions.

1. The results indicated that the concentrations of SPM (suspended particulate matter) didn't show good correlations with river discharge and seasons during 2016-2019. Could this be related to the sampling variations? I expect that SPM is not like DOC, it may not be distributed uniformly in the river. It is not mentioned how much water was filtered for SPM. Was the water volume consistent used for all SPM sample collections? Any duplicate SPM samples were collected? This should be an easy thing to do.
2. Small water volume (400 ml) was used for the ultrafiltration in this study. Did the efficiency of the ultrafiltration method using different pore sizes filters have been tested using standard compounds of knowing molecular weight? I think the authors probably did. If so, please add this information in the Method Section.
3. On line 114, please state what is IS-MS for the first time.
4. The Results Section can be more focused on the results only, some discussion sentences can be moved to Discussion Section.
5. The lower reaches of the Yangtze River flows through the agricultural plain, and the use of a large amount of chemical fertilizers may have a great influence on river nitrogen. Some discussion on this may be necessary.