

## ***Interactive comment on “A global compilation of in situ aquatic high spectral resolution inherent and apparent optical property data for remote sensing applications” by Kimberly A. Casey et al.***

### **Anonymous Referee #1**

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Casey et al compiled a comprehensive AOP/IOP dataset covering wide range of oceanic environments, which I think will be very useful for the ocean optics and ocean color remote sensing community. I fully support its publication.

A few minor suggestions: 1. Line 24, delete “remote sensing”, as it is the same for contact radiometers 2. L69, “water itself” please note that bbw is different between fresh water and seawater, so need to clarify this statement here. 3. L74, “Torrecilla and others”, I think it should be Torrecilla et al. 4. Lines 94-111, this summary of current and historical missions is not relevant to this manuscript, could be simply a few citations or references. Also note that some of the missions are/were not designed

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for aquatic environments. 5. Line 126, note that Lin et al (2018) have presented a hyperspectral AOP/IOP dataset for the PACE mission. 6. L146, “provided at 1 nm resolution”. This could be misleading, as the spectral resolution of many radiometers, including HyperPro, is  $\sim 10$  nm. Suggest to change “resolution” to “interval”, as it is a simple interpolation of data from much coarser resolution, so not really measurement at 1 nm resolution. This is especially true for bbw, which were usually measured at 6 or 9 bands. 7. L257, “the spectral region 380–800 nm with a resolution of 3.3 nm” From the document of Satlantic, the spectral resolution is about 10 nm, also the sampling interval is 3.3 nm. 8. L265, “a common spectral resolution every 2 nm”. Again, it is necessary to be very careful about “resolution”, and I think here it is simply a spectral interval of 2 nm for display, not really measured at 2 nm spectral resolution. 9. L326-328, “The above-water remote-sensing reflectance spectra were corrected, following the surface correction algorithm of Gould et al. (2001), using the average absorption at 412 nm and the derived spectral scattering shape (Gould et al., 1999).” Suggest to double check and re-word this approach, as it is not clear how average absorption at 412 nm and derived spectral scattering shape can be used to correct surface reflectance in Rrs measurement. 10. “The in situ dataset has been stored and is provided free of charge at the PANGAEA data archive and publisher for Earth and Environmental Science (<https://doi.pangaea.de/10.1594/PANGAEA.902230>) as detailed in Section 3” This has been presented earlier, which can be deleted here.

Lin, J., Lee, Z., Ondrusek, M., & Liu, X. (2018). Hyperspectral absorption and backscattering coefficients of bulk water retrieved from a combination of remote-sensing reflectance and attenuation coefficient. *Optics Express*, 26(2), 157-177

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