

# ***Interactive comment on “A systematic examination of the relationships between CDOM and DOC in inland waters in China” by Kaishan Song et al.***

**T. Kutser**

[tiit.kutser@sea.ee](mailto:tiit.kutser@sea.ee)

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Very impressive dataset and a very valuable research from remote sensing perspective. I definitely recommend to publish the paper after some minor modifications have been made.

The Authors mention in the text that using remote sensing for small ponds and lakes is problematic because of lack of appropriate remote sensing sensors. This may have been true some time ago (Palmer et al. 2015), but is not any more. Sentinel-2 imagery with 10 m spatial resolution is available globally. This kind of resolution is suitable for almost any pond, not speaking about lakes. Sentinel-2A data has been already used in mapping lake CDOM and DOC (Toming et al. 2016). Sentinel-2B was launched

two months ago and is currently in testing phase. Meaning that in a few months 10 m spatial resolution imagery will be available with 5 days revisit time at the equator and about 2-3 day revisit time for most lakes in China. Besides that Landsat-8 imagery with 30 m spatial resolution is also available. There have been several papers recently showing the usefulness of Landsat-8 in mapping lake CDOM/DOC. Consequently, the image data is not a problem anymore. This strengthens the value of this research even more. I recommend to improve the remote sensing part of the manuscript showing that there is plenty of data available now free of charge with very high spatial and temporal resolution and your study will help to improve usefulness of this data at very local to global scales.

SUVA is an important parameter used to describe carbon quality (e.g. in drinking water industry). Therefore, it is important to link remote sensing and SUVA more closely in the manuscript. Remote sensing of SUVA has been demonstrated at least in one recent paper cited several times by the Authors. I would recommend to add this reference in the 3.4 and strengthen the link between SUVA and remote sensing there.

Is there any information available for seasonal variability? At least in boreal zone CDOM decreases from spring to summer and then starts to increase again (e.g. Kutser 2012), but how about the CDOM-DOC or DOC-SUVA relationships? This would be a very interesting piece of information.

In general the paper is written well. There are some minor errors in names (e.g. must be Gulf of Finland not Finish Gulf in row 119) and some sentences can be modified, but the text is easily readable.

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Discussion paper

