

***Interactive comment on* “Variation of phytoplankton absorption coefficients in the northern South China Sea during spring and autumn” by J. Wu et al.**

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Received and published: 31 July 2007

This paper needs substantial revision before resubmission.

The following are its main limitation:

1. Small data set in space and time. Hard to establish its representativeness.
2. Relevant pigment data is not provided despite it being collected (as citation of companion papers suggest). Relating a_{ph} to those data will strengthen the author's thesis.

3. No attempt to relate geographical patterns to other studies measuring the same parameters across coastal shelves (many studies in the US (CALCOFI, GLOBEC) and Europe have presented similar results, that is changes in community composition, a_{ph} values, and B/R ratios as one moves from near shore to off shore).
4. No uncertainties in measurements are provided.
5. a_{ph} is the more relevant ecological parameter for both remote sensing and primary production (See Perry's chapter in Spinrad et al., 19xx and Mara's paper from 2007). Reading the paper one would think chlorophyll concentration is more useful.
6. The authors argue that their data supports using regional parameterizations of a_{ph} in inversion models but fail to show how one would do it for their study area and /or its superiority when applied to inversions of Rrs. For example, should one use SST or bathymetry to choose a specific a_{ph} shape function for inversions?

In short, this paper needs very substantial revisions to make it publishable in BG.

Interactive comment on Biogeosciences Discuss., 4, 1555, 2007.

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