

## ***Interactive comment on “Optical tools for ocean monitoring and research” by C. Moore et al.***

**C. Moore et al.**

Received and published: 23 October 2009

We thank the reviewer for these positive comments.

All co-authors have clarified their affiliations

The reviewer suggested:

Page 661 lines 22/23 - I'm not sure that "continue" in line 23 is quite the right word given that the sentence starts with "improve and reach a broader community". We changed the text

Page 662 line 2 - is this not a sweeping statement about LIBS? I realize the details are dealt with later, but there is a risk of simplifying the many issues with this (and other technologies) given the range of concentration of substances of interest in the ocean. We changed the text.

Page 662 line 22 - also refer to the Jonsson et al paper within this issue (P Jonsson, I

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Sillitoe, B Dushaw, J Nystuen and J Heltne, Observing using sound and light - a short review of underwater acoustic and video-based methods). We fully agreed and added to the text.

Page 663 line 3 - "AOP sensors are inherently passive" - is there another word for inherently that avoids any possible confusion for the non-specialist with the I in IOP?  
Text was changed

Page 665 line 9 - Comment on the success, applicability, assumptions etc of the inversion methods would be appropriate here. It's a good example of the sensor/processing combination that may become more prevalent? Given the large number of inversions applied upon a multitude of measured parameters the authors felt this change would take us out of scope for the paper. We do think this would make an excellent topic for a separate review.

Page 667 line 19 - perhaps "transitioning"; is more appropriate than "transcending";  
Text was changed

Page 667 line 20 - no mention of speed of response, which is a particular advantage of the optical technology for this measurand. Text changed and recent reference added.

Page 669 line 20 - I'm not familiar with the Hartmann array - is it worth a few words of explanation? The full name, Shack-Hartmann lenslet array was added to text.

Page 670 line 27 the references do not seem to cover the use on AUVs - the Cunningham et al. (2003) reference already used would be suitable here as an AC9 was used on the Autosub as well as a flow cytometer (which is where the reference is used). We added to the text

Page 671 line 19 - "biological variability" - to avoid doubt this needs to be qualified as to what aspects of biological variability can be assessed with these methods. Text was changed

Page 673 line 4 - PSII should be written out in full on first occurrence? We changed

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the text

Page 673 line 11 - "nanostructure" - what precisely is meant? We erased term from the text

Page 673 line 13 - is not the fluorescence lifetime not the "average time" but the time for the fluorescence to decay to  $1/e$  of the initial value? We clarified text

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Interactive comment on Ocean Sci. Discuss., 5, 659, 2008.

**OSD**

5, S279–S281, 2009

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