Interactive comment on “In situ determination of the remote sensing reflectance: an inter-comparison” by G. Zibordi et al.

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The Reviewer suggests a few Changes/Revisions. They are hereafter individually addressed (see the REPL Y following each COMMENT).

SPECIFIC COMMENTS

COMMENT: To improve the quality of presented paper I would suggest attaching the list of symbols to facilitate the reading. That will also help reading off the tables. REPL Y: List of symbols and acronyms have been added.

COMMENT: Page 791, line 5: As a reader I would like to know which method and why do you consider as a reference at the beginning of the paper. Please indicate the method here or at least give information about criteria of choice of the reference method. The information can be then repeated and completed on page 810, line 10. REPL Y: The reasons for choosing one of the inter-compared systems/methods as the reference are declared from the beginning.

COMMENT: Page 793, line 11: The explanation of particular diffuse attenuation coefficients: Kl(_), Ku(_) and Kd(_) is needed here. REPL Y: The incomplete description originally provided on the various diffuse attenuation coefficients has now been improved by specifying the data source.

COMMENT: Page 793, line 24: _0 should be explained here (by the first mention) as the sun zenith instead of on the page 795, line 5. REPL Y: The text has been modified.

COMMENT: Page 794, equation 5: Lw(_,_,_) should be supposedly replaced by Lw(_,__,_). REPL Y: The formalism has been corrected.

COMMENT: Page 798, line 24: Why do you assume a(_) = Kd(_)? Please give a prove that scattering coefficient can be neglected in the AAOT waters. Section 2 could be supplemented by brief seawater optical properties characterization at the AAOT. REPL: The assumption of a=Kd is valid on a first approximation. This is now declared and a reference is also added. Table 9, already including details on the bio-optical properties of the site during the ARC experiment, is expanded to also embrace additional bio-optical values including “a” and “Kl” for comparison with “Kd”.

COMMENT: Page 798, equation 6: The capital letter “Z0” should be supposedly replaced by a small letter “z0”. REPL: The formalism has been corrected.

COMMENT: Page 798, line 12: Why can you assume that Kl(_) = Kd(_)? Please give a short explanation or a reference. REPL: A reference has been added. Moreover, both Kd and Kl values have now been included in Table 9 summarizing quantities representative for ARC measurements.

COMMENT: Page 800, line 6: Please explain why do you compute self-shading uncertainties as different percentage for different methods (i.e. 25% for WiSPER, 35% for
TACCS, again 25% for TRIOS) or give a reference. REPL: The 35% used for TACCS is explained by the assumption of “a=Kd” suggesting larger uncertainties in the applied self-shading corrections with respect to those determined for WISPER relying on “a” as requested by consolidated methods.

COMMENT: Page 803, line 25: The symbol \( L_wn(\_\_\_\_\_) \) should be explained just before or just after using it. I suggest to move the expression “the normalized water-leaving radiance” from page 804, line 1 to page 803, line 25 and putting the sign “=” in correct place. Also the equation \( L_wn(\_) = \text{Rrs}(\_\_) \ E(\_\_) \) would be more legible when keeping in one line. REPL: The text has been changed following all the reviewer’s requests.

COMMENT: Page 813, line 17: Please keep the previous order of notation \( L_w(\_,\_,\_) \) instead of \( Lw(\_,\_,\_) \). REPL: The formalism has been corrected.

MINOR CORRECTIONS

COMMENT: Please unify the notation of equation citations in the text body: page 795, line 9 gives “Eq. 3”; page 798, line 5 gives “equation 1”, page 807, line 4 gives “Eq. (5)”. There are commas or dots after equations in some sections and in some not, please order that. REPL: The notation utilized for equations has been unified throughout the text.

COMMENT: Page 803, line 9: “of” is missing after “because”. REPL: The text has been revised.

COMMENT: Page 813, line 26: Put “TRIOS-B” instead of “TRIO-B”. REPL: The text has been revised.

Interactive comment on Ocean Sci. Discuss., 9, 787, 2012.