

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 REPLY 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. REPLY: 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

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method. The information can be then repeated and completed on page 810, line 10. REPLY: 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: $K_l(_)$, $K_u(_)$ and $K_d(_)$ is needed here. REPLY: 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. REPLY: The text has been modified.

COMMENT: Page 794, equation 5: $L_w(_,_,_)$ should be supposedly replaced by $L_w(_,_,_,_)$. REPLY: The formalism has been corrected.

COMMENT: Page 798, line 24: Why do you assume $a(_) = K_d(_)$? 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. REPLY: The assumption of $a=K_d$ 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 “ K_l ” for comparison with “ K_d ”.

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

COMMENT: Page 798, line 12: Why can you assume that $K_l(_) = K_d(_)$? Please give a short explanation or a reference. REPLY: A reference has been added. Moreover, both K_d and K_l 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

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TACCS, again 25% for TRIOS) or give a reference. REPLY: The 35% used for TACCS is explained by the assumption of “ $a=K_d$ ” 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 $L_{wn}() = R_{rs}() E_0()$ would be more legible when keeping in one line. REPLY: 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 $L_w(, ,)$. REPLY: 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. REPLY: The notation utilized for equations has been unified throughout the text.

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

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

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