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Interactive
comment

Interactive comment on "Simultaneous determination of aerosol optical thickness and water leaving radiance from multispectral measurements in coastal waters" *by* Chong Shi and Teruyuki Nakajima

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The paper could be significantly improved by addressing the following issues.

(1) Please provide examples of derived AOT and corresponding nLw in form of images to illustrate good separability of atmospheric (AOT) and oceanic (nLw) signals, especially for glint-contaminated cases.

(2) The term "one-step" inversion of the proposed algorithm is misleading as the approach is based on iterative fitting. Please clarify.

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(3) MODIS has no centre bands at 867 and 1628 nm. Please check the provided band settings and explain why an arbitrary mix of 1 km and 0.5 km resolution bands was used in this study.

(4) Please provide a reference for the MODIS standard atmospheric correction (AC) and a detailed discussion of the Siegel et al. 2000, Stumpf et al. 2003 and Bailey et al. 2010 modifications to account for non-zero NIR water-leaving radiance.

(5) Analyse and quantify in detail AOT overestimation for those cases where negative nLw was retrieved by the MODIS standard AC algorithm (Fig 6b). Are negative nLw simply a result of AOT overestimation or due to differences of the retrieved aerosol type (e.g. Angstroem coefficient)?

(6) Provide information of the simulated AOT ranges.

(7) The manuscript contains numerous spelling and grammatical errors and requires careful proof-reading before publication.

Kind regards Thomas Schroeder

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