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Interactive comment on "Steady-state solutions for subsurface chlorophyll maximum in stratified water columns with a bell-shape vertical profile of chlorophyll" *by* X. Gong et al.

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Reply to the comments by J. Pitarch Jaime.

Dear all: I see that the possibility (or not) to retrieve the vertical distribution of a water constituent has been mentioned in this paper and its following discussion. If I understand it well, the author finds analytical expressions relating the gaussian parameters. He suggests the link to the remotely-sensed chla. Posteriorly, E. Boss replies that such goal is far from being achieved (in practice?) In a recently published paper, we show that the remote sensing reflectance is sensitive to the gaussian parameters in a way that the latter can be retrieved when the former is measured. It is a model study where

we set the theoretical basis. I think it can add some light to this discussion:

Jaime Pitarch, Daniel Odermatt, Marcin Kawka, and Alfred Wüest, "Retrieval of vertical particle concentration profiles by optical remote sensing: a model study," Opt. Express 22, A947-A959 (2014)

http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-22-S3-A947

Response: Thank you very much for your kind comments. In the revised version, we cite the paper and try to apply our theoretical results to retrieve the Gaussian profile of Chl a at three time-series stations in different regions, i.e., the South East Asia Time-series Station (SEATS) in the South China Sea, the Hawaii Ocean Time-series (HOT) station, and the Bermuda Atlantic Time-Series Study (BATS) site. Please see our revised manuscript.

Interactive comment on Biogeosciences Discuss., 11, 9511, 2014.