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Atmospheric Measurement Techniques Discussions

Interactive comment on "Impact of the aerosol type on HICO atmospheric correction in coastal waters" *by* C. Bassani et al.

Anonymous Referee #1

Received and published: 25 June 2014

This paper describes a method used to atmospherically correct hyperspectral data from the Hyperspectral Imager for the Coastal Ocean (HICO.) The approach used data from AAOT to determine determine atmospheric parameters other than the aerosol type. Using their approach the authors show that the maritime aerosol model in 6Sv provides the best results as measured by the root mean square difference between the measured and calculated reflectance values.

I believe that the paper is a worthwhile addition to the understanding of atmospheric correction. However, I am concerned that the english is poor enough that many readers will not be able to fully understand the content. I strongly suggest that the authors find a way to improve that aspect of the paper. I think that the changes needed are more than minor but aren't described by the term major either.

There is one question that might be worth addressing. What significance do you attached to the generally increasing value of the the ED as the wavelength goes down? The spectra are generally decreasing below 500 nm while the ED continues to increase.

A couple of minor points:

1) You should add the reference Gao, B. C., Li, R. R., et al, "Vicarious Calibrations of Hico Data Acquired from the International Space Station", Applied Optics, 51 (14) 2559-2567 (2012.) HICO is not calibrated with the laboratory calibration nor does it have an on-board calibration facility, as you are likely aware.

2) Top of page 8: There is a reference to the FWHM of the HICO spectral channels being in the header file of the image. Many people have no access to this file and therefore cannot know what value you used. Please provide the actual width in nm.

3) In figure 5, I would like to see more wavelength tic marks. I cannot tell,for instance, if some of the shapes line up with known absorption features.

4) Perhaps, I missed it but you should state how many points were averaged in the RIOs to make up the spectra shown in figure 4.

5)In the text there is discussion of a normalized Euclidean Distance (bottom of page 3) but in Figure 5 is in the ED. Please make consistent or otherwise explain this in the text.

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 5147, 2014.