

Announcements:

- Ocean Optics meeting in October in Victoria BC. The IOP group is holding a meeting at the venue the Sunday before the conference. Anybody on this list is welcome to join.
- Emmanuel will be representing the Science Team at OCRT in D.C. 2-4 May.
- Antonio has created a subgroup to discuss a coastal camera. They had a telecon last Friday. The summary of that telecon just went out. If you want to be in that subgroup contact Antonio (antonio.mannino-1@nasa.gov).
- AGU session on "Advances in Active, Spectral and Polarimetric Remote Sensing and Retrieval Techniques for Characterization of the Atmosphere and Ocean" organized by Bastiaan, Olga, Kirk and John Yorks will be a good place to submit PACE research, and we may plan a PACE AC get together in conjunction with this session.

Project Update

On April 7th, Jeremy sent out to the Science Team list a status update. I am attaching it here. If you didn't receive it in April, you should receive it in May. We have attempted to standardize the email lists.

In the attached, Jeremy asks for suggestions for spectral domains in which to increase resolution of spectral sampling. Following the telecon Robert sent an email that listed these 3 spectral ranges for enhanced spectral resolution:

- 1) 390-410 nm, 430-450 nm, 470-480 nm, and 510-520 nm --to estimate ocean Raman scattering
- 2) 670-710 nm --to estimate phytoplankton chlorophyll fluorescence
- 3) 755-775 --to estimate aerosol altitude

a 4th region was suggested during the telecon and that would be for NO₂.

The Project investigated the question of whether PACE was viable at a lower altitude in case active sensor platforms wanted to fly in formation. The answer is that there is no show stopper for a lower orbit.

Other items in the attached worth mentioning are the on-going work on nailing SNR requirements, ground sample distance trades (750 m vs 1000m) and hyperspectral SWIR. Although the last I heard was that hyperspectral SWIR was not cost effective and the investigation veered towards considering additional finite SWIR bands. Heidi and Bo-Cai are advocating for additional channels in the 680 - 750 nm range to resolve the "red edge" of the spectrum.

Written report and papers

The IOP is planning to write a review article for a peer review journal as part of their final ST report. At the 14th April telecon we discussed whether or not we wanted to do something similar. The discussion ranged freely, but I came away with a solid feeling that the AC group should **not** be working on a jointly written review article.

My reasons are that (a) the IOCCG report from 2010 already summarizes atmospheric correction up to that point. (b) our community will be better served by the publication of the individual research projects underway in the group (c) some of what the group is doing is not pure atmospheric correction, which makes a focused review article very cumbersome.

We should write a final report, and that should take some form that can be referenced, like a NASA Technical Memo.

There were some participants at the telecon who advocated for a paper that describes a basic algorithm that encompasses the pieces missing from the IOCCG report such as hyperspectral plus other innovations. To me such a paper would be a patchwork of people's individual projects and not a synthesis. But, I challenged those proposing this paper to flesh out a little bit of their vision, because I am open to persuasion.

In the meantime, I am going to do two things. 1) Start collecting paper submissions and publications from

the team members, pertinent to the PACE effort. I start this list below. 2) Provide a final report outline.

Next PACE AC telecon: Thursday May 12th 4:00 pm Eastern

PACE AC Publications:

Published

P. Zhai, Y. Hu, D. M. Winker, B. Franz, E. Boss, “Contribution of Raman scattering to polarized radiation field in ocean waters,” *Optics Express*, 23(18), 23582-23596 (2015).

Submitted

Xu, F., Dubovik, O., Zhai, P.-W., Diner, D. J., Kalashnikova, O. V., Seidel, F. C., Litvinov, P., Bovchaliuk, A., Garay, M. J., van Harten, G., and Davis, A. B.: Joint retrieval of aerosol and water-leaving radiance from multi-spectral, multi-angular and polarimetric measurements over ocean, *Atmos. Meas. Tech. Discuss.*, doi:10.5194/amt-2015-394, in review, 2016.