

Wednesday, October 10

Poster Session 3

16:00–18:00

Poster 202

WATERHYPERNET - A NETWORK OF HYPERSPECTRAL MULTI-LOOK RADIOMETERS FOR MULTI-SATELLITE WATER REFLECTANCE VALIDATION

A network of hyperspectral radiometers is being developed for radiometric validation of satellite missions. This network follows closely the AERONET-OC federation concept [Zibordi et al, 2009] but uses the TRIOS/RAMSES hyperspectral radiometer and a more extensive multi-look pointing scenario. The instrument system consists of one radiance and one irradiance sensor on a pointing robot, controlled by a small embedded computer board and supplemented with GPS, inclinometer and video camera data feeds. The measurement protocol is based on the abovewater method of [Mobley, 1999 and 2015], but includes additional scenarios for different viewing zenith and azimuth configurations. The system is being deployed initially in Belgian coastal and inland waters, then at sites in Argentina and France before full international expansion. The network will provide water reflectance data for the radiometric validation of all visible and near infrared bands of all optical missions, including Sentinel-2A&B, Sentinel-3A&B, PROBA-V, MODIS-AQUA&TERRA, VIIRS, Landsat-8, Pléiades, CHRIS-PROBA, MSG-SEVIRI, PlanetDove ... ENMAP, PACE, MTG and ... any future optical missions, including nanosatellites. This presentation will provide the first results on system prototype testing and the results of numerical simulations demonstrating the advantages of hyperspectral and multi-look radiometry.

Kevin Ruddick, RBINS, kruddick@naturalsciences.be

Dieter Vansteenwegen, Flanders Marine Institute, dieterv@vliz.be

Matthew Beck, Royal Belgian Institute for Natural Sciences (RBINS), mbeck@naturalsciences.be

Ana Dogliotti, Instituto de Astronomía y Física del Espacio, Consejo Nacional de Investigaciones Científicas y Técnicas, adogliotti@iafe.uba.ar

David Doxaran, Laboratoire Océanographique de Villefranche (LOV), doxaran@obs-vlfr.fr

Clémence Goyens, Royal Belgian Institute for Natural Sciences (RBINS), cgoyens@naturalsciences.be

André Catruijsse, Flanders Marine Institute (VLIZ), andre.catruijsse@vliz.be

Fang Shen, State Key Laboratory of Estuarine and Coastal Research (SKLEC), fshen@sklec.ecnu.edu.cn

Dimitry Van der Zande, Royal Belgian Institute for Natural Sciences (RBINS), dvanderzande@naturalsciences.be