

OCEAN OPTICS XXIV

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<https://oceanopticsconference.org>

Monday, October 8

Oral Session 1

10:50–12:30

10:50–11:10

PARTICULATE OPTICAL PROPERTIES IN THE MEDITERRANEAN AND BLACK SEAS THROUGH CALIPSO SPACEBORNE LIDAR MEASUREMENTS

Recently, new applications on global-scale plankton retrievals using the CALIOP (Cloud-Aerosol Lidar with orthogonal Polarization) lidar measurements on the CALIPSO (Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations) satellite suggested that space-based lidars could provide information about the depth distribution of optical scattering. Assessing the oceanic surface layer's optical properties through CALIOP is one of the reasons of the extension of the CALIOP mission for another 3 years (2018-2020). Despite these results, this new application for ocean retrievals has limitations and uncertainties that need to be further assessed and estimated. The objective of this work is the evaluation of the potential CALIOP ocean products in the Mediterranean and Black seas. Within this frame, the ocean column-integrated depolarization ratio measurements at 532 nm were firstly derived through CALIOP measurements. This parameter allowed deriving the surface hemispheric backscattering coefficients (bbp) using different algorithm schemes that have been compared to the bbp at 443 nm derived by the multi-sensor L3 product (MODIS-AQUA and NPP-VIIRS data) in the Mediterranean and Black seas provided by the Copernicus Marine Environment Monitoring Systems (CMEMS). Analyses of annual and seasonal distributions of CALIOP and CMEMS bbp will be presented for both basins.

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