THE ENMAP L2A WATER PROCESSOR: OPERATIONAL PERFORMANCE AND APPLICATION OF ENMAP DEDICATED WATER REFLECTANCE PRODUCTS

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Launched in April 2022, EnMAP is an optical (VNIR/SWIR) remote sensing mission with high spatial (30m GSD) and spectral (FWHM ~6-12nm) resolution [1]. As ans unique feature of the mission, the L2A processor of the EnMAP ground segment processing chain has been designed and developed to provide dedicated water reflectance products to the users. It is based on the output of the Modular ssInversion and Processing System (MIP) developed by EOMAP GmbH [2]. EnMAP water reflectance can be provided in two different flavours: subsurface irradiance reflectance and normalised water leaving reflectance [3]. The contribution will show the performance of the EnMAP L2A water processor in terms of a quality assessment of the dedicated water products, evaluating the accuracy of the estimated reflectance based on in-situ measurements from several AERONET-OC stations under different water and atmospheric conditions. Furthermore, the two products will be highlighted in terms of their use and advantages, in particular for the (hyperspectral) water community, and a number of applications using the EnMAP hyperspectral water reflectance data will be presented.

[1] Tobias Storch et al., "The EnMAP imaging spectroscopy mission towards operations," *Remote Sensing of Environment*, vol 294, 2023.

[2] Kiselev, Viacheslav, Barbara Bulgarelli, and Thomas Heege. "Sensor independent adjacency correction algorithm for coastal and inland water systems." *Remote Sensing of Environment, vol* 157, 2015: 85-95.

[3] "EnMAP Ground Segment Level 2A Processor (Atmospheric Correction Water) ATBD", https://www.enmap.org/data/doc/EN-PCV-TN-6008_Level_2A_Processor_Atmospheric_Correction_Water.pdf