Wednesday, October 10
Poster Session 3
16:00–18:00

Poster 206

IMPROVEMENTS OF THE BRIGHT PIXEL CORRECTION FOR OLCI AND THE SENTINELS 3: STATE OF THE ART AND OPPORTUNITIES

Our recent research activities in the fields of the BPC[1] for OLCI[2], performed in the scope of the S3 MPC[3], showed that starting from the existing Level 2 processor, we could reduce the spatial noise by 15% (at 400nm) to 50% (at 900 nm), for very clear waters, and by 5 to 40% for coastal waters while keeping in the same time statistically equivalent validation performance when comparing with in-situ data. The first part of our presentation aims at showing the improvements of the corrected version of the OLCI Level 2 processor. Beyond this, we investigate in the second part possible ways to further improve the level 2 processor. We particularly focus on the introduction of the spatial information knowledge in the inversion, typically the spatial continuity of the aerosol properties. The basic assumption in the atmospheric correction is the ability to separate the spectral signatures of the atmospheric and the water contributions to the signal. Nevertheless, this assumption often fails, even if considering the 1.02 µm band for OLCI. In such case, the introduction of a priori onto the spatial covariance of the aerosol is particularly relevant and helps to unmix the two contributions. We show different strategies, from the literature, and quantify the results for OLCI in terms of: water reflectance estimation improvements; gains in spatial coverage; reduction of the estimated uncertainties; cost in terms of computation. [1] BPC: Bright Pixel Correction [2] Ocean Land Colour Instrument [3] MPC : Mission Performance Center setup by ESA & EUMETSAT

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