

ABSTRACT

The paper shows a methodology based on neural networks for the retrieval of 'bio-optical' parameters in oceanic and coastal waters from hyperspectral measurements. Indeed, some indicators of water quality parameters such as chlorophyll-a, suspended sediments and dissolved organic matter, alter, depending on their concentration, the optical properties of water, influencing, in this way, what is the signal spectrum measured by a remote sensor. Besides being used for the retrieval problem, the neural networks are considered for the dimensionality reduction of the input vector. For the networks training, a simulated dataset based on 6S – (Second Simulation of a Satellite Signal in the Solar Spectrum) radiative transfer model has been generated while a final validation based on experimental Hyperion data has been also considered.