

# Development of SPM algorithm for ocean color remote sensing. Application to the Mekong delta

Dinh Ngoc Dat<sup>1</sup>, Hubert Loisel<sup>1,2,3</sup>, Vincent Vantrepotte<sup>3</sup>, and Antoine Mangin<sup>4</sup>

1 : Space Technology Institute (STI), Vietnam Academy of Science & Technology (VAST), 18 Hoang Quoc Viet, Cau Giay, Ha Noi, Viet Nam.

2: Institut de Recherche pour le Développement (IRD), Van Phuc Diplomatic Compound App 202 Bldg 2G, 298 Kim Ma, Ba Dinh, Hanoi, VietNam

3: Laboratoire d'Océanologie et de Géosciences (LOG), Univ. du Littoral Cote d'Opale, 28 avenue Foch, BP 80, 62930 Wimereux, France

4 : ACRI, 260 Route du Pin Montard 06904 Sophia-Antipolis, France

A new suspended particular matter (SPM) algorithm is developed using a large in-situ dataset gathered from different field measurements performed in various coastal environments in the frame of the GLOBCOAST project ([www.foresea.fr/globcoast/](http://www.foresea.fr/globcoast/)). The performances of this algorithm are compared to previous published inverse methods to assess SPM from ocean color remote sensing in coastal areas. These different algorithms are then applied to the Full-spatial resolution (250x250 m<sup>2</sup>) remote sensing reflectance data delivered by the MEdium Resolution Imaging Spectrometer (MERIS) over the Mekong delta region and neighboring coastal waters. Based on the application of three different SPM algorithms, uncertainties SPM maps are also provided. The SPM temporal patterns (irregular variability, seasonal variability, and long term trend) are then described using the Census-X-11 method over the data collected from 2002 to 2011. These different patterns are then analyzed with regards to the different physical forcing parameters (waves and wind).