

# Retrieval of Chlorophyll from Remote-Sensing Reflectance in the China Seas

Ming-Xia<sup>1</sup> HE, Zhi-Shen LIU<sup>1</sup>, Ke-Ping DU<sup>1</sup>, Li-Ping LI<sup>1</sup>, Rui CHEN<sup>1</sup>,  
Kendall CARDER<sup>2</sup>, and Zhong-Ping LEE<sup>2</sup>

1: Ocean Remote Sensing Laboratory of Ministry of Education of China  
Ocean Remote Sensing Institute (ORSI), Ocean University of Qingdao  
E-Mail: mxhe@ns.qd.sd.cn

2: University of South Florida  
E-Mail: Kcarder@monty.marine.usf.edu

## ABSTRACT

The East China Sea is a typical case 2 water whose concentrations of phytoplankton pigment, suspended matter and Colored Dissolved Organic Matter (CDOM) are all higher than those in the open oceans, due to the discharge of the Yangtze River and the Yellow River. In this paper, using a hyperspectral semi-analytical model for shallow waters, remote-sensing reflectance, absorption coefficient and chlorophyll concentration were simulated for different chlorophyll, suspended matter and CDOM concentrations of case 2 water, a new method for retrieving chlorophyll concentration from remote-sensing reflectance is proposed. In this method, a hardly neglectable spectral channel 682 nm is taken into account in addition to the SeaWiFS channels. The chlorophyll concentrations retrieved through the new method consistent with field measurements with a small error of 18 %, in contrast to that of 147 % between SeaWiFS OC2 algorithm and the *in situ* observation.