# **AN EMPIRICAL APPROACH FOR QUALITY SCREENING OF THE SATELLITE OCEAN COLOR DATA**

# Jianwei Wei 1, and Zhongping Lee 1

Satellite ocean color remote sensing provides unprecedented coverage of the global oceans. Due to the inherent difficulties such as instrument calibration and subsequent data corrections, the ocean color data are subjected to errors and uncertainties. Although continuous efforts are devoted to the CAL/VAL of the ocean color, there exist no criteria for assurance of the validity of the available ocean color data. In this study, we present an empirical but independent approach for quality control and screening of the satellite ocean color data. The criteria are sought from the aggregate data of hyper-spectral remote sensing reflectance (Rrs) collected from a wide of range of oceanic waters. We first established the end members for the ocean color. Further, we clustered the in situ Rrs spectra into various categories, each of which is characterized by specific spectral slopes and Rrs values. These empirical criteria were further used to scrutinize the ocean color data by MODIS Aqua sensor (412, 443,488, 531, 547, 667, and 678 nm). The pixels, which are likely incorrectly calibrated, were identified from the ocean color images. The effects of the data screening on various levels of ocean color products were evaluated.

1 University of Massachusetts Boston, MA 02125, USA
Email: Jianwei.wei@umb.edu (J. Wei) and zhongping.lee@umb.edu (Z. P. Lee)