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Improvement of aerosol retrieval using Geostationary Ocean Color Imager

Myeong Jae Choi (1), Jhoon Kim (1), and Jaehwa Lee (2)

(1) Institute of Earth, Astronomy, and Atmosphere, Brain Korea 21 Program, Department of Atmospheric Sciences, Yonsei University, Seoul, Republic of Korea. (choi816@yonsei.ac.kr), (2) Goddard Space Flight Center, NASA, Greenbelt, MD, United States.

Aerosol optical properties in East Asia are retrieved hourly from the first Geostationary Ocean Color Imager (GOCI) launched in June 2010 onboard the Communication, Ocean, and Meteorological Satellite (COMS). A multichannel algorithm was developed to retrieve aerosol optical depth (AOD), fine-mode fraction (FMF), single scattering albedo (SSA) and aerosol type in high spatial and temporal resolution. To develop optimized algorithm for the target area of GOCI, optical properties of aerosol are analyzed from extensive observation of AERONET sunphotometers to generate lookup table. Especially, Distributed Regional Aerosol Gridded Observation Network (DRAGON) campaign occurred in South Korea and Japan during the period of 1st March – 31th May 2012. Using DRAGON northeast Asia data, lookup table to retrieve aerosol optical properties is updated. Surface reflectance of turbid water is determined from 30-day composite of Rayleigh- and gas corrected reflectance. The algorithm retrieves AOD, and size information together with aerosol type which are consistent with results inferred by RGB image in a qualitative way. The comparison of the retrieved AOD with those of GOCI and AERONET sunphotometer observations shows reliable results.