KMA'S GSICS ACTIVITIES

This paper reports on KMA's GSICS activities. KMA installed the S/W for MTSAT-1R IR intercalibration with LEO (AIRS and IASI) based on ATBD version 1.2 before releasing COMS data in late 2009. KMA plans to implement the S/W for operational use by the end of 2008. For VI calibration, KMA implemented the vicarious calibration system using ocean and desert target. In addition, KMA will make plan to collaborate with Seoul National University to develop the method using DCC (Deep Convective Cloud).

KMA'S GSICS ACTIVITIES

This paper reports on the activities of the Korea Meteorological Administration (KMA) regarding the Global Space-based Inter-Calibration System (GSICS).

1. Infrared radiation Inter-Calibration

KMA implemented GSICS S/W for IR inter-calibration with AIRS/Aqua in Korean fiscal 2007 first quarter and with IASI/Metop-A in second quarter. The results of intercalibration with AIRS are presented in the GSICS Executive Panel, Forth meeting in February 2008. Before launching COMS in late 2009, MTSAT-1R data will be used for inter-calibration with LEO. For long-term analysis and preparation of operational use with COMS, KMA will make plans to implement the GSICS S/W for near real-time operation of IR inter-calibration by end of 2008.
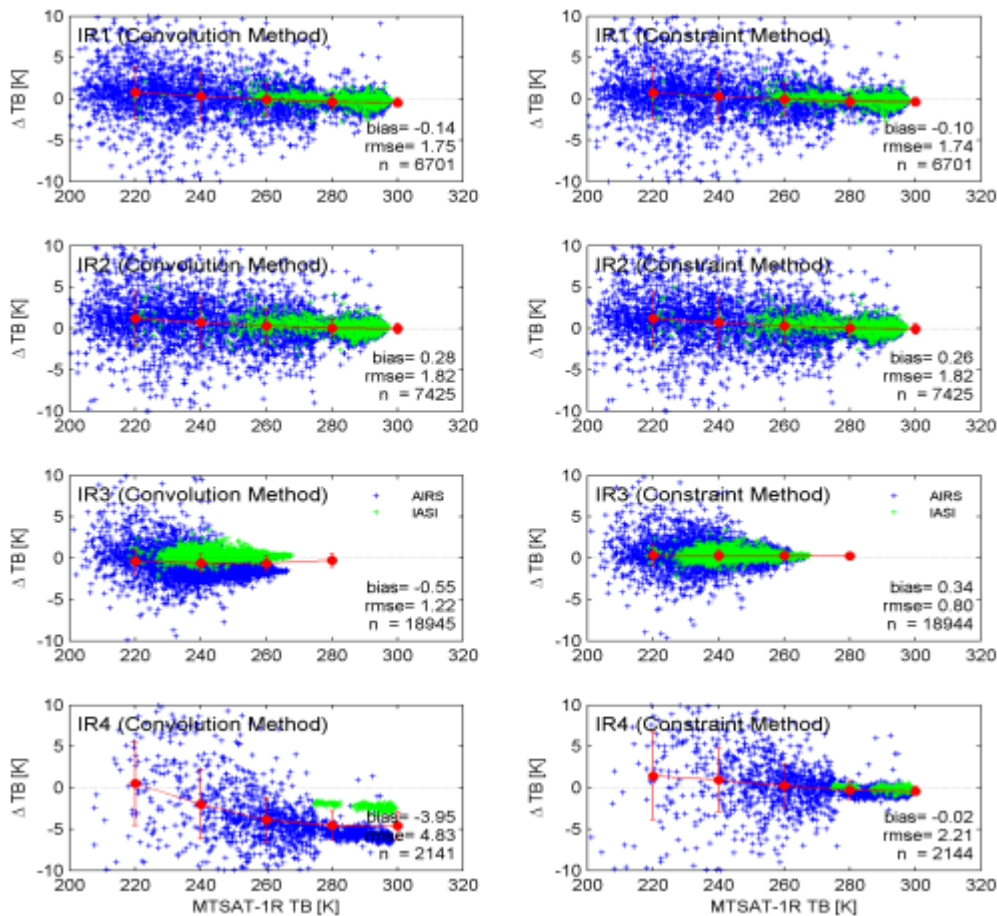

Fig. 1 MTSAT-1R TB vs. AIRS and IASI TB for convolution (left panels) and constraint (right panels) methods.   TB represents MTSAT – AIRS/IASI TB. Red circles represent the biases with the error bars (i.e., standard deviation) at a given TB range (10K).

2. Vicarious calibration of visible channel

As a part of COMS Meteorological Data Processing System (CMDPS), KMA developed the system for VI vicarious calibration and for monitoring of IR calibration by inter-comparison with MODIS data. For VI vicarious calibration, ocean, desert over Australia, and cloud targets are used (Fig. 2). For the simulation, 6S (Second Simulation of the Satellite Signal in the Solar Spectrum) radiative transfer model is used. NCEP total water vapor, OMI column ozone amount, and MODIS BRDF parameter are used as inputs. KMA plans to collaborate with Seoul National University (SNU) on vicarious calibration using deep convective cloud (DCC) for COMS in near future.
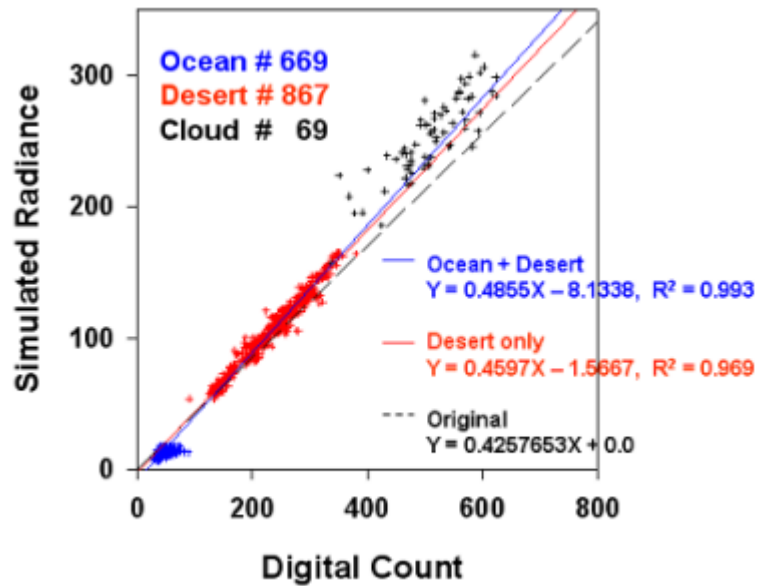

Fig. 2 The scatter plot of simulated TOA radiance at MTSAT-1R visible band and observed digital count.