

P18

**Aerosol monitoring over South Korea using COMS MI measurement for MAPS 2015
and DRAGON-Asia 2012**

Mijin Kim(1), Jhoon Kim(1), Ukkyo Jeong(1), Woogyung Kim(1), Myungje Choi(1),
Brent Holben(2), Thomas F. Eck(2),(3), Jae Hyun Lim(4), Junyeong Ann(4)

(1)Department of Atmosphere Sciences/IEAA BK 21 plus, Yonsei University, Seoul, Korea

(2) NASA Goddard Space Flight Center, Greenbelt, MD, U.S.A.

(3) Universities Space Research Association, Columbia, MD, USA

(4) National Institute of Environmental Research(NIER), Incheon, Korea

Diverse efforts utilizing ground and satellite-based measurements have been applied to understand atmospheric environment over North East Asia (NEA). A geostationary satellite, COMS has been in operation since 2010 to monitor ocean and atmospheric condition for North East Pacific region. To capture aerosol variability in NEA, NASA science team and NIER of Korea conducted DRAGON-Asia campaign by deploying over 40 sun/sky-radiometers over South Korea and Japan from March to May, 2012. Subsequently, MAPS-Seoul campaign was performed from May to June, 2015 to assess the current status of air quality in the Seoul Metropolitan Area (SMA). For the MAPS-Seoul campaign, 8 sun/sky-radiometers were operated in South Korea together with other ground-based and airborne chemistry measurements.

While the campaign detected detail of aerosol characteristics at each local point, and AOD retrieval algorithm (Kim et al., 2014) using visible reflectance measured from a payload of the COMS, the MI, was in operation. The algorithm provides AOD distribution over an extensive area with high temporal resolution of up to 15 minutes, though it has limitation in detecting particle size or radiative absorptivity (SSA).

In this study, variability of aerosol characteristics in NEA during spring was analyzed by using the MI and those concentrated measurements in ground. Furthermore, the accuracy of the AOD retrieval algorithm was assessed by comparing the results with AERONET AODs, and the effects of the field campaigns on the improvement of satellite-based algorithm was discussed.