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GEMS(Geostationary Environment Monitoring Spectrometer) onboard the GeoKOMPSAT to Monitor Air Quality in high Temporal and Spatial Resolution over Asia-Pacific Region

J. Kim (1) and the GEMS Team

(1) Yonsei University, Seoul, Korea, (2) Seoul National University, Seoul, Korea, (3) KARI, Daejon, Korea, (4) National Institute of Environment Research(NIER), Inchon, Korea, (5) Ministry of Environment(ME), Gwacheon, Korea, (6) Konkuk University, Seoul, Korea, (7) GIST, Gwangju, Korea, (8) Pusan National University, Pusan, Korea; , (9) Kyungpook National University, Daegu, Korea;, (10) Ewha Womans University, Seoul, Korea; , (11) Gangreung Wonju National university, (12) Harvard Smithonian Center for Astrophysics, (13) KORDI, Ansan, Korea

A scanning UV-Visible Spectrometer, GEMS (Geostationary Environment Spectrometer) is planned to be launched in 2018 onboard a geostationary satellite, GeoKOMPSAT(Geostationary Korea Multi-Purpose SATellite by KARI(Korea Aerospace Research Institute), together with ABI(Advanced Baseline Imager) and GOCI-2 (Geostationary Ocean Color Imager). Synchronous measurements of air pollutants together with the meteorological variables and ocean color information are expected to contribute to better scientific understanding on the distribution and transboundary transportation of air pollution, and on interactions between meteorology and air chemistry in the Asia-Pacific region. This mission is expected to improve the accuracy of air quality forecasting and reduce current discrepancy between the model and observation. Furthermore, constellation of the GeoKOMPSAT with Senteniel-4 in Europe and GEOCAPE in America in 2017- 2020 time frame can result in great synergistic outcomes including enhancing significantly our understanding in globalization of tropospheric pollution.