Remote Sensing of aerosols and clouds from new satellite imagers combining radiative transfer and machine learning techniques

*Chong Shi[1], Husi Letu[1], Wenwu Wang[1], Chenqian Tang[1], Run Ma[1], Sekiguchi Miho[2], Teruyuki Nakajima[3], Makiko Hashimoto[4], Masahiro Momoi[5]

1. Aerospace Information Research Institute, Chinese Academy of Sciences, 2. Japan Tokyo University of Marine Science and Technology, Tokyo, Japan, 3. The University of Tokyo, Japan, 4. Japan Aerospace Exploration Agency, 5. GRASP SAS: Lezennes, Nord, France

New satellite imagers with better characteristics in spatial-temporal resolution and spectral coverage have been launched in recent several years. With such improved technologies, new satellite inversion algorithms have been developed and applied to the retrieval of aerosols, ocean color, clouds, and surface solar radiation, based on a series of sophisticated schemes, such as the use of coupled atmosphere-ocean radiative transfer model in the atmospheric correction for ocean color, the combination of radiative transfer model and machine learning techniques in the aerosols, clouds, and solar radiation estimation. In this talk, we like to introduce some new results by using the data from GOSAT-2/CAI-2, FY-3D/MERSI, GCOM-C/SGLI, Himawari-8/AHI, Sentinel-5/TROPOMI.

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