



## **Several thoughts for using new satellite remote sensing and global modeling for aerosol and cloud climate studies**

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The rapid growth of satellite remote sensing technologies in the last two decades widened the utility of satellite data for understanding climate impacts of aerosols and clouds. The climate modeling community also has received the benefit of the earth observation and nowadays closed-collaboration of the two communities make us possible to challenge various applications for societal problems, such as for global warming and global-scale air pollution and others. I like to give several thoughts of new algorithm developments, model use of satellite data for climate impact studies and societal applications related with aerosols and clouds. Important issues are 1) Better aerosol detection and solar energy application using expanded observation ability of the third generation geostationary satellites, i.e. Himawari-8, GOES-R and future MTG, 2) Various observation functions by directional, polarimetric, and high resolution near-UV band by MISR, POLDER&PARASOL, GOSAT/CAI and future GOSAT2/CAI2, 3) Various applications of general purpose-imagers, MODIS, VIIRS and future GCOM-C/SGLI, and 4) Climate studies of aerosol and cloud stratification and convection with active and passive sensors, especially climate impact of BC aerosols using CLOUDSAT&CALIPSO and future Earth Explorer/EarthCARE.