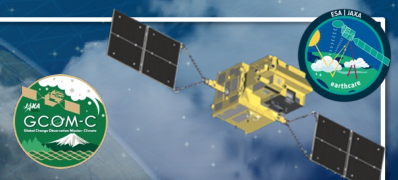


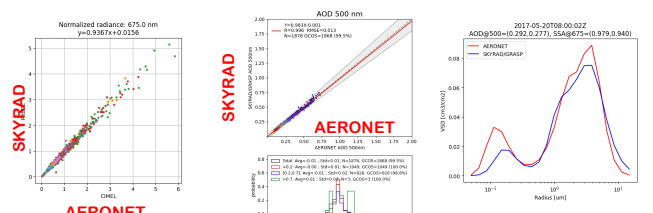
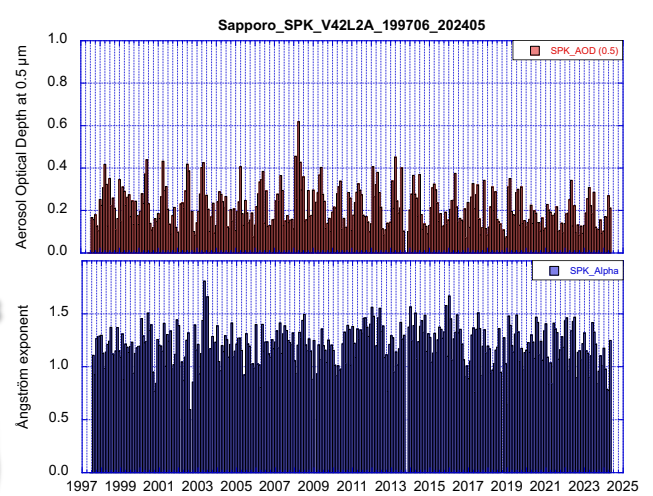
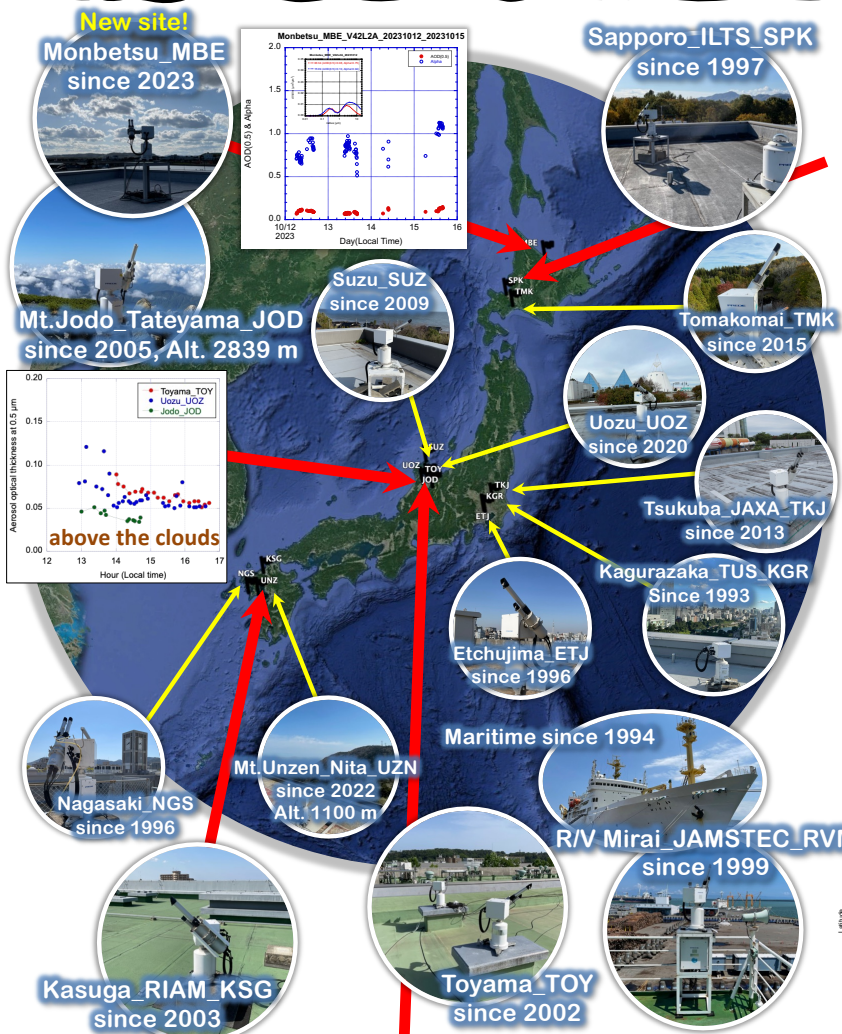
Long-term observation of aerosol optical properties by ground-based and ship-borne Sky radiometer

Kazuma Aoki: University of Toyama, Japan

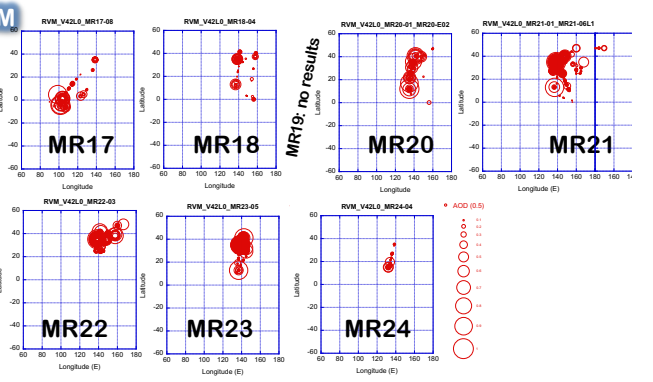
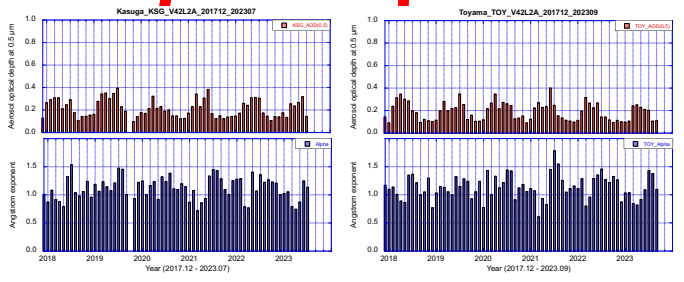
Masahiro Momoi, Milagros Herrera, Anton Lopatin & Oleg Dubovik (GRASP), Benjamin Torres (University of Lille, LOA)



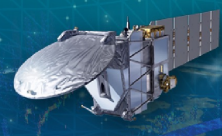
Objectives: Aerosol optical properties play an important role in the earth climate and radiation budget. We investigated the long-term observation of aerosol optical properties at ground-based and ship-borne measurements since 1990's by using the Sky radiometer (POM-01, 02: PREDE Co. Ltd., Tokyo, Japan.). One of the objectives was to understand the effect on climate and radiation budget, and the other was to validate satellite (e.g., GCOM-C/SGLI, EarthCARE, Himawari and so on), numerical models. Direct and indirect solar radiation measurements from the ground and maritime have been successfully employed for aerosol optical properties. These data have revealed various events (anthropogenic and/or natural aerosols), seasonal and long-term trends. However, there are still some things to consider in different observation environments and different climatic conditions, such as changes in radiation algorithm for some atmospheric conditions and parameters, which are also related to spatial and temporal variability. Therefore, they are considering how to obtain more detail results of aerosol optical properties. We show the possibility to the wavelength dependence of solar aureole, in this presentation, on the comparison between SKYRAD, GRASP- SKYRAD, Aeronet, Satellite of aerosol optical properties with variability in the long-term record.



Comparison of Aeronet to SKYRAD-GRASP in Sapporo_SPK



Summary and Future plan: We have been able to obtain more than 30 years of Aerosol data from remote-sensing. We would like to continue our observations in cooperation and continue our research by incorporating new algorithms (GRASP-SKYRAD). **SKYRADio observations will re-start at GSFC this Sep.**



If you have any questions and/or comments about this research and our observation data, please contact Kazuma Aoki.
kazuma@sci.u-toyama.ac.jp