[EJ] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-AS Atmospheric Sciences, Meteorology & Atmospheric Environment

[A-AS06]Atmospheric Chemistry

convener:Yoko Iwamoto(Graduate School of Biosphere Science, Hiroshima University), Tomoki Nakayama(Graduate School of Fisheries and Environmental Sciences, Nagasaki University), Sakae Toyoda(東京工業大学物質理工学院, 共同), Nawo Eguchi(Kyushu University)
Wed. May 23, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)
This session provides a forum for the presentation of the broad spectrum of tropospheric and stratospheric chemistry, including various research topics (e.g., dynamical processes, air quality and climate), approaches (modeling, field measurements, remote sensing, and laboratory studies), and species (gas and aerosol). This session also provides an opportunity for discussing possible future collaboration with other research fields relevant to atmospheric chemistry.

[AAS06-P20]Measurements of cloud particles and sea salt aerosols at Tarawa (1.35N, 172.92E), Kiribati using balloon-borne Cloud Particle Sensor (CPS)

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Keywords:cloud particle, sea salt aerosols, radiosonde

The Cloud Particle Sensor (CPS; Fujiwara et al., AMT, 2016) is a small-mass (200 g) balloon-borne sensor flown with Meisei radiosonde. The CPS is equipped with a diode laser at 790 nm and two photodetectors, with a polarization plate in front of one of the detectors, to count the number of particles per second and to obtain the cloud-phase information (i.e., liquid, ice, or mixed). The lower detection limit for particle size was evaluated in laboratory experiments as 2 µm diameter for water droplets. We have flown a total of 13 CPSs at an equatorial Pacific site, Tarawa (1.35N, 172.92E), Kiribati, in January 2016, November 2016, and November 2017 under the Soundings of Ozone and Water in the Equatorial Region (SOWER) project. In the presentation, we will show the measurements of cirrus cloud layers in the upper troposphere and of non-spherical particles in sub-saturated marine boundary layer. The latter particles were found in all the 13 soundings and are most probably sea salt aerosols.