Oral | Symbol A (Atmospheric, Ocean, and Environmental Sciences) | A-AS Atmospheric Sciences, Meteorology & Atmospheric Environment

[A-AS21_30AM1]Stratospheric Processes And their Role in Climate

Convener:*Kazuyuki Miyazaki(Research Institute for Global Change, JAMSTEC), Masakazu Taguchi(Aichi University of Education), Yoshio Kawatani(Japan Agency for Marine-Earth Science and Technology), Kaoru Sato(Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo), Chair:Yoshio Kawatani(Japan Agency for Marine-Earth Science and Technology)
Wed. Apr 30, 2014 9:00 AM - 10:45 AM 313 (3F)
The Stratospheric Processes And their Role in Climate (SPARC) is one of the major projects of the World Climate Research Programme (WCRP), and is characterized by its focus on chemical and dynamical coupling based on both observations and modeling. In this session, we welcome presentations on various processes in the troposphere to the mesosphere.

10:30 AM - 10:45 AM

[AAS21-P04_PG]A study of Antarctic ozone variation by using FORMOSAT-3/COSMIC observation

3-min talk in an oral session
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Keywords:FORMOSAT 3/COSMIC, ozone, Antarctic

The Formosa Satellite 3, also named as the Constellation Observing System for Meteorology, Ionosphere, and Climate (abbreviated as FORMOSAT-3/COSMIC, F3/C), is a constellation of six micro-satellites, designed to monitor weather and space weather. The constellation was launched into an initial circular low-Earth orbit at an altitude of 512 km on 15 April 2006. The six micro-satellites have deployed to six mission obits at around 800 km altitude with 30-degrees separation in longitude for evenly distributed global coverage. The major payload onboard F3/C, GPS occultation experiment (GOX) instrument daily provides more than 2000 soundings of atmospheric vertical temperature profile. By binning radio occultation observations, the three-dimensional temperature structure can be obtained to monitor Antarctic temperature variation. Real-time measurements of vertical temperature structures over the Antarctic region are important for monitoring the formation of polar stratospheric clouds (PSCs) which is a critical factor in the ozone variation. On the other hand, the Ozone Monitoring Instrument (OMI) in the Aura mission observes for total ozone and other atmospheric parameters related to ozone chemistry and climate. The instrument observes Earth's backscattered radiation with a wide-field telescope feeding two imaging grating spectrometers. In this work, more than 5 years observation will be used to make a quantitative comparison of ozone and atmospheric temperature variation in Antarctic.