2020 Workshop: Whole atmosphere coupling

Long title
Whole atmosphere coupling and sudden stratospheric warmings of solar cycle 24
Conveners
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Description

Coupling of atmospheric layers is one of the central topics of CEDAR workshop. Sudden stratospheric warming (SSW), a large-scale meteorological disturbance, has been associated with profound anomalies in the Earth atmosphere, and connects atmospheric regions from the troposphere all the way to the upper thermosphere and ionosphere. During the last decade, numerous studies showed that Arctic sudden stratospheric warmings cause large global disturbances in the ionosphere, thermosphere, and mesosphere. Sudden stratospheric warming of September 2019 enabled new studies aiming to examine whether Antarctic SSW have similar global impact on the upper atmosphere. This workshop aims to promote discussions and collaborations between scientists working on different aspects of whole atmosphere coupling. We welcome both contributions focused on SSW events of the solar cycle 24 and contributions that examine atmospheric coupling in more general terms, including studies of connections through gravity waves, tides, and planetary waves.

Agenda

Jia-Ting Lin, “New Characteristics of Quasi-6-Day Wave Burst in Ionosphere during the 2019 Antarctic Sudden Stratospheric Warming by Using Global Ionosphere Specification".

Yosuke Yamazaki, “GAIA simulation results for 6-day ionospheric oscillation during the September 2019 SSW”

Fede Conte, “Are meteor radar observations revealing a response of the NH semidiurnal tide to the 2019 SH SSW?"

Nick Pedatella, “Migrating Semidiurnal Tide during the September Equinox Transition in the Northern Hemisphere”

Valery Yudin, "Predicting Variability and Perturbations of PW and Tidal Dynamics in Whole Atmosphere Models"

Larisa Goncharenko, "Ionospheric Disturbances Linked to the Antarctic Sudden Stratospheric Warming of September 2019: low and middle latitudes"

Katelynn Greer, "Antarctic Sudden Stratospheric Warming of 2019 Effects on Longitudinally Varying Thermospheric Composition"

Zbysek Mosna, "Mid-latitude ionosphere response to major stratospheric warmings of winters 2017/18 and 2018/2019"

Tarique Siddiqui, "Solar and lunar tidal variability during the 2018 and 2019 NH SSWs from WACCM-X simulations"

Maosheng He, “High-order solar tidal activities during SSWs"

William Ward, “Mesopause wind observations at 80N during the 2009, 2018 and 2010 SSW and comparisons with WACCM-X”

Richard Collins, "Middle atmosphere lidar and radar observations from Alaska during the 2018-2019 SSW"

Steven Smith, “Mesospheric Gravity Wave Momentum Flux Associated with a Large Thunderstorm Complex”

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