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M04: Recent advances in middle atmosphere science

Organisers: IAMAS (ICMA)
Lead convenor: Shigeo Yoden (Japan)
Co-convenors: Bernd Funke (Spain), Takeshi Horinouchi(Japan), Damian Murphy (Australia), Cora Randall (United States of America)

Scope: This is the core symposium of ICMA (International Commission on the Middle Atmosphere). Papers related to any aspect of the dynamics, chemistry, or physics of the atmosphere from near the tropopause to the lower thermosphere are appropriate for this symposium. Observational, modeling, theoretical, and laboratory studies are all solicited. In particular, investigations of the middle atmosphere in the context of climate of the whole atmosphere are encouraged. Research topics include (but are not limited to):

- middle atmosphere responses to anthropogenic climate change and other external forcings
- middle atmosphere influences on long-term changes in both the troposphere and upper atmosphere
- stratospheric/mesospheric chemistry and ozone
- radiation, microphysics, chemistry and dynamics in the TTL or the extratropical UTLS
- dynamics, transport and mixing in multiple spatial scales
- observations and modeling of gravity waves
- intraseasonal and interannual variations in the middle atmosphere
- remote influences in the middle atmosphere, including tropical/extratropical interactions, vertical couplings in the tropics and polar regions.

We specially invite new results that will provide new insights into the science of the middle atmosphere in a changing climate.

Invited talks (as of Jan. 10, 2011)

Greg Bodeker (Bodeker Scientific)
"Is ozone evolving as expected under the provisions of the Montreal Protocol?"
Masatomo Fujiwara (Hokkaido Univ.)
"Seasonal to decadal variations of water vapor in the tropical lower stratosphere"
Martin Kaufmann (Forschungszentrum Jülich)
"The temporal evolution of atomic hydrogen in the upper mesosphere since 2002"
Ulrike Langematz (Freie Univ. Berlin)
"The Impact of stratospheric change on Antarctic climate"
Gloria L Manney (JPL/CalTech & NMT)
"Transport and mixing in relation to the upper tropospheric/lower stratospheric (UTLS) jets from satellite and aircraft data"
Charles McLandress (Univ. Toronto)
"Separating the effects of climate change and ozone depletion on the circulation of the Southern Hemisphere stratosphere and troposphere"
Laura Pan (NCAR)
"Identification of the tropopause layer using tracer-tracer correlations: TTL vs. ExTL"
Eugene Rozanov (PMOD/WRC and IAC ETHZ)
"Attribution of stratospheric ozone and circulation changes during 21st century simulated with chemistry-climate model"

ABSTRACT SUBMISSION DEADLINE: 1 FEBRUARY 2011

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