

Special Seminar

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Visiting ATS from GATS, Inc., Boulder

**Remote Sensing of the Atmosphere from
the Troposphere to the Edge of Space**

Hosted by Chris Kummerow

Thursday, March 9, 2017

ATS room 101

Discussion will begin at 2:45 p.m.

Refreshments will be served at 2:15 p.m. in the weather lab

Lidar remote sensing enables observations of various atmospheric properties and dynamics from the troposphere to the region of the atmosphere considered the edge of space near ~80-100 km. For some aspects of the atmosphere, studying coupling between different altitudes and regions is important for a more in depth understanding. Gravity waves are one aspect integral to understanding atmospheric coupling, as they strongly influence dynamics within the atmosphere via the transport of energy and momentum from the lower atmosphere to the middle and upper atmosphere. Gravity waves especially have implications on the climatology and circulation within the mesosphere and lower thermosphere. More research is needed to improve our understanding about gravity wave “hot spots” in the lower atmosphere and implications at higher altitudes, secondary gravity wave generation leading to momentum transport above gravity wave breaking regions, multi-scale gravity wave interactions, and small-scale features and instabilities associated with gravity wave dissipation. This talk investigates coupling between different regions of the atmosphere through observations of gravity wave breaking, secondary gravity wave generation, and small-horizontal scale gravity wave propagation environments using Rayleigh lidar, resonance fluorescence lidar, and airglow observations throughout the atmosphere.

Link to colloquium videos and announcement page: <http://www.atmos.colostate.edu/dept/colloquia.php>