Discoveries at the Edge of Space with LIDAR Innovations

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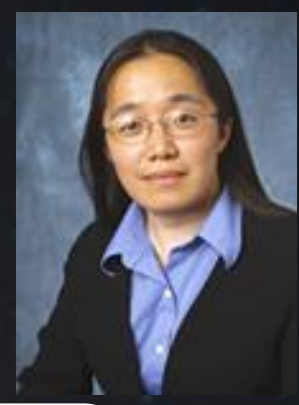

Time: 14:00, 28 March 2017, Tuesday

Venue: A709 Jiuzhang Building

Abstract: Since deploying an iron (Fe) lidar to McMurdo, Antarctica in late 2010, a research team from the University of Colorado Boulder has made a legendary science journey over the last six years at the bottom of the world. Numerous discoveries were made at the edge of space, advancing our understanding of the fundamental processes in the Earth's space-atmosphere interaction region and how they shape the atmospheres of Earth-like planets. This seminar will introduce how the team advances the space-atmosphere sciences through pushing lidar detection limit and producing the best crop of young scientists. A message to emphasize is the huge potentials that lidar brings to the atmospheric sciences and space exploration.

Xinzhao Chu obtained the Ph.D. from Peking University in 1996. She has published a large number of papers and been selected as a reviewer in JRL, JGR, AO and so on. Chu explores advanced spectroscopy principles, develops new lidar technologies, and studies the fundamental physical and chemical processes that govern the structure and dynamics of the whole atmosphere. She is an American distinguished researcher in lidar and the middle and upper atmosphere.

Chu and her research group focus on both lidar technology development and atmospheric/space science study. The technology development involves atomic, molecular and laser spectroscopy, lidar technology and instrument development, and cluster remote sensing technology applications including observational campaigns from the North Pole to the South Pole. The science study is currently focused on the polar mesospheric and stratospheric clouds, thermal structure and dynamics in the stratosphere, mesosphere and lower thermosphere in both polar and equatorial regions with observations, data analysis, and modeling. One of the goals is to send a resonance lidar into space to study the global middle atmosphere dynamics.

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