2020 Workshop: Lidar Progress

Long title
Progress in Lidar Science and Engineering
Conveners
Richard Collins
Titus Yuan
Description

From measurements that reveal long-term changes in the circulation to the physics of wave-wave interactions, lidar systems continue to provide unique and important high-resolution measurements for advancing CEDAR science. Lidar systems around the globe are making key measurements in understanding how meteorological processes are contributing to space weather, and the ion-neutral coupling processes in the middle and upper atmosphere. This workshop offers an opportunity to present and review recent progress in lidar science and engineering. The format of the workshop will be short presentations that will inform the CEDAR community about current progress and new opportunities. Time for open discussion at the end.

CEDAR students Arunima Prakash (University of Colorado) and Fan Yang (Embry Riddle Aeronautical University) will be covering the session for the CEDAR student letter. Please consider sharing copies of your presentation materials with them.

Agenda

Friday June 26, 2020

8:30 am **Welcome and introductions**
R. Collins and T. Yuan
University of Alaska Fairbanks and Utah State University

Ten 10-minute talks

8:35 am **VAHCOLI: A Network for the middle atmosphere of general purpose Doppler Rayleigh/Mie/Resonance lidar**
J. Höffner, J. Froh, A. Mauer, F-J. Lübken
Leibniz Institute of Atmospheric Physics

8:47 am **The airborne lidar project ALIMA: measuring temperature and wind in the middle atmosphere from an aircraft**
B. Kaifler
German Aerospace Center (DLR)

8:59 am **Relationship between turbulence and atmospheric stabilities revealed by Na lidar measurements**
F. Yan, A. Liu, F, Vargas
Embry Riddle Aeronautical University and University of Illinois

9:11 am **Exploring the Antarctic Atmosphere and Space with Simultaneous Na and Fe Lidar Measurements**
X. Chu
University of Colorado Boulder

9:23 am **The ACaDAMe and B-SoLiTARe lidar projects**
D. Janches
National Aeronautics and Space Administration

9:35 am **Long lasting Large vertical wind perturbations near turbopause and its relation to Na layer extension into thermosphere**
T. Yuan
Utah State University

9:47 am **Observation of mesopause region by sodium lidar over Hefei, China**
T. Li
University of Science and Technology of China

9:59 am **Recent progress with the sodium resonance wind-temperature lidar, Rayleigh lidar, and meteor radar at Poker Flat Research Range**
B. Williams, R. Collins, S. Das, D. Thorsen
GATS and University of Alaska Fairbanks

10:11 am **Significance of Calcium ion observations using resonance lidar at Arecibo**
S. Raizada
University of Central Florida

10:23 am **Observations of June 02, 2019, Solar Eclipse over the Andes Lidar Observatory**

F. Vargas, A Liu , G. Swenson
University of Illinois and Embry Riddle Aeronautical University

10:35 - 10:55 am **Discussion**

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