2014 Workshop: Optical calibration and data analysis

Long title
Calibration and analysis techniques for passive optical and lidar observations
Conveners
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Description

Accurate calibration is important for inter-comparison of observations, data/model comparisons, and long-term investigations. We invite discussion on a broad range of topics relating to passive optical and lidar observations and their analysis. Possible topics include absolute and relative intensity calibration, wavelength calibration, spatial scale determination, error analysis, correction for scattering within the lower atmosphere, isolation of atmospheric lines of interest, flat field techniques, and spectral fitting approaches. In addition to reporting progress on calibration and analysis techniques, this workshop provides an opportunity to discuss challenges and questions to gain feedback from other workshop participants. In addition, we welcome modelers to discuss use of observations for model-data comparisons, and associated questions and challenges for model validation. We encourage hands-on demonstrations and presentations by students.

Agenda

Workshop overview (pdf)

Derek Gardner presentation on H-alpha spatial heterodyne spectrograph (pdf)

Tom Slanger presentation on CESAR (pdf)

John Meriwether presentation on anomalous vertical wind in Peru (pdf)

John Meriwether presentation on issues with FPI measurements of the airglow green-line emission (557.7 nm) (pdf)

Justification

Accurate calibration, analysis, and error assessment provides the foundation for data that can be used to address a range of CEDAR strategic science topics, including coupling in the interaction region between the Earth’s atmosphere and the near space environment, lower-upper atmospheric coupling, Sun-Earth interactions, investigation of atmospheric dynamics through combination of observations such as wind measurements, and long-timeline observations. This workshop provides a forum for discussing unresolved challenges as well as reporting progress.

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