2013 Workshop: LALO

Long title
Large Atmospheric Lidar Observatory (LALO), a new initiative.
Conveners
Gary Swenson
Chester Gardner
Description

An initiative to develop an NSF LALO observatory will be described, including a summary of the recommendations made by participants of the LALO workshop held May 15-17, 2012, in Chicago. The initiative is focused on studying neutral chemistry and dynamics in the 30-1000 km region with modern Doppler lidars, with a special focus on 100-200 km and 300-1000 km. The science addresses problems in planetary atmosphere evolution including chemistry and electro-dynamic coupling. The draft report that describes the scientific problems, engineering simulations, and facility attributes necessary to accomplish the scientific goals we be discussed. The attributes include ~100 m2 collection aperture for extending the altitude and temporal sampling with metal and He resonance, Rayleigh, and Raman lidar methods, which is re-locatable.

Agenda

A report will presented in the 1st half of the workshop, and open discussion will prevail regarding the initiative by the attendees from the CEDAR community. The agenda outline to accomplish this is detailed below.

1. Science summary (Leaders presentation)

2. What are the observational gaps and LALO performance to fill them. (Lead: Chester Gardner)

3. Discussion and community input to 1 and 2 above. (Lead Gary Swenson)

4. LALO Engineering, and location (Lead: Gary Swenson)

5. Discussion and community input (Lead: Jeff Thayer)

Justification

This is a description of a major new initiative to develop a Large Atmospheric Lidar Observatory (LALO). The resources are to be developed within NSF as a new initiative. Progress will be measured over the long-term by assessing substantive contributions to major scientific problems similar to the periodic assessments of existing NSF facilities.

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