2024 Workshop: GCI --- MLT and CUSP Solar Max

Long title
Grand Challenge Initiatives for Rocket and Balloon Research --- Mesosphere / Lower Thermosphere and CUSP Solar Max
Conveners
Kolborn Blix, Robert Pfaff
kolbjoern.blix@andoyaspace.no
Description

This workshop focuses on exciting sounding rocket and balloon research involving both the ongoing Mesosphere/Lower Thermosphere (M/LT) and the proposed “CUSP Solar Max” program (2025-2030), primarily taking place at the Norwegian rocket ranges of Andoya and Svalbard. The workshop is intended to discuss both ongoing science investigations and possible topics for both Grand Challenge Initiative (GCI) programs.

These Grand Challenge Initiatives are “follow ons” to the successful GCI-Cusp campaign led by Andoya Space of Norway. This highly successful program was carried out between Dec 2018 and Dec. 2021 with 12 sounding rockets launched at Andøya and Svalbard including those provided by NASA, Norway, and Japan.

GCI-MLT has an expanded scope, with more international participation, a more geographically diverse set of observations, and more diversity in platforms (ground-based, balloon, aircraft, rocket, satellite) to address critical problems in MLT physics.

A third GCI program, “CUSP Solar Max”, springs from a splinter meeting at CEDAR 2023, where a solar max version of the highly successful CUSP GCI (solar min) project was suggested. This new initiative is considered both timely and scientifically justified, particularly with respect to underflights of NASA’s dual satellite TRACERS Explorer satellites, expected to be launched in 2025. Establishing a new Cusp GCI helps ensure access to scientific infrastructure at Svalbard that would otherwise be unavailable, as well as helping to justify new and upcoming ground-based/space based scientific infrastructure.

More info on the Grand Challenge Initiative CUSP (predecessor) & M/LT may be found here: https://www.grandchallenge.no/

Agenda

March 26th, 2024:

Because of its similarity to the proposed session "Using sounding rockets to advance scientific understanding of the ionosphere-thermosphere system", these two sessions have agreed to be merged.

Justification

Although the GCI M/LT program is already underway with both balloon- and sounding rocket borne campaigns, the GCI 3 “CUSP Solar Max” is still in the preliminary buildup phase, and needs both further discussions, development, and coordination. CEDAR 2024 provides an ideal opportunity to plan complementary and new campaigns. To ensure the best possible scientific outcome and value for the funding institutions money, we anticipate that this workshop will include short (5 min) presentations (either live or pre-recorded) on proposed/planned experiments/campaigns that will help promote discussions/comments.

Workshop format
Short Presentations
Keywords
GCI, Solar Max, Andoya, Svalbard
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