2024 Workshop: The 2023 and 2024 eclipses

Long title
Investigations of ionosphere and atmosphere response to the October 14, 2023 and April 8, 2024 solar eclipses
Conveners
Gareth Perry
Christopher Watson
Bharat Kunduri
Daniel Emmons
Alex Chartier
Nathaniel Frissell
Shunrong Zhang
Ercha Aa
Phil Erickson
Saurav Aryal
gperry@njit.edu
Description

The focus of this workshop is on the ionosphere and atmosphere response to the annual and total solar eclipses that occurred on October 14, 2023 and April 8, 2024, respectively. Both eclipses were observable over a sizable portion of the North American continent. We solicit presentations reporting on investigations into one or both of these eclipses. The presentations can be theoretical or observational in nature — and we encourage presentations reporting ongoing research activities related to these eclipses (that may not have matured enough for reportable results).

Justification

Solar eclipses are rare and distinct opportunities to study the impulse response of the coupled geophysical system’s response to a rapid cessation (and subsequent resumption) of solar EUV flux on the system. The CEDAR community was fully engaged during the 2017 “Great American” eclipse. However, each eclipse is unique and presents new opportunities for investigations of all aspects of the coupled ionized and neutral portions of the atmosphere. In particular despite the unprecedented modeling and observational efforts carried out for this eclipse, many

open questions remain unanswered. The 2024 event is the last total solar eclipse that will occur over the contiguous United States for the next 20 years. It is, therefore, important that the CEDAR community gather to disseminate investigative efforts related to these eclipses to enable science closure on outstanding eclipse science questions, and to identify new questions that will be tackled in the future.

Related to CEDAR Science Thrusts:
Encourage and undertake a systems perspective of geospace
Fuse the knowledge base across disciplines in the geosciences
Manage, mine, and manipulate geoscience/geospace data and models
Workshop format
Short Presentations
Keywords
Eclipse, ITM system observations, geospace coupling
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