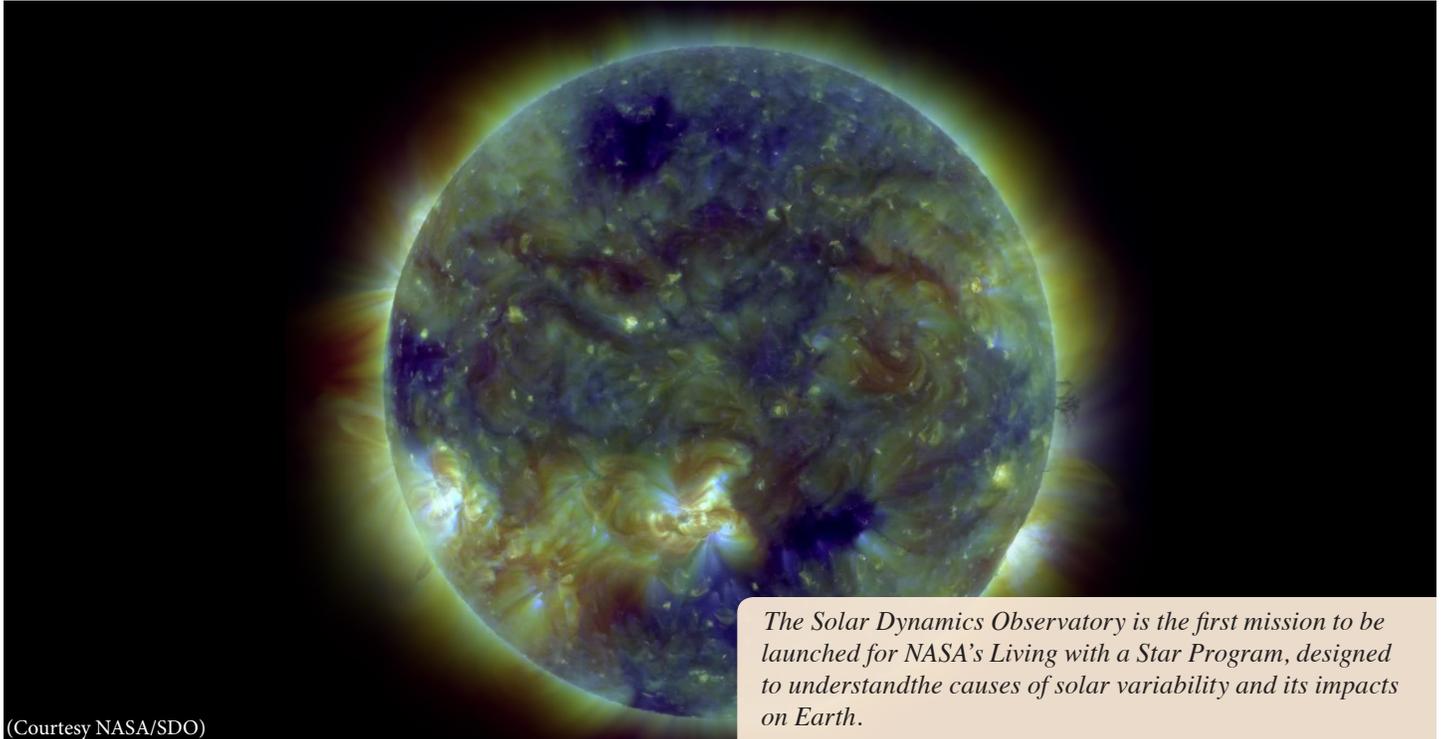


Solar Dynamics Observatory/ EVE

Extreme Ultraviolet Variability Experiment



(Courtesy NASA/SDO)

The Solar Dynamics Observatory is the first mission to be launched for NASA's Living with a Star Program, designed to understand the causes of solar variability and its impacts on Earth.

Frequently Asked Questions

What is the purpose of EVE?

EVE is one of three instruments on SDO. Its purpose is to measure and model solar extreme ultraviolet irradiance variations due to solar flares, solar rotation, and solar cycles. EVE will advance the understanding of these variations due to the highly dynamic fields and structure of the Sun.

What is solar variability?

Solar radiation varies on all time scales ranging from seconds/minutes for intense solar flares to years/centuries for slower changes in the solar magnetic activity. This longer term variation is related to the 11-year sunspot cycle. Rapidly evolving solar storms produce flares as well as coronal mass ejections (CMEs).

What are the effects of space weather?

Solar activity expels radiation and energetic particles from the Sun during flares and CMEs. Space weather refers to variations in the local space environment driven by the solar radiation and particles and how those variations impact Earth. These impacts can include sudden satellite failures, communication and navigation disruptions, radiation hazards to astronauts, and loss of satellites to atmospheric drag.

How will data from EVE be used?

EVE data will be used to specify the solar EUV spectral

Quick Facts

Launch date: February 11, 2010

Launch location: Kennedy Space Center, Cape Canaveral, FL

Launch vehicle: Atlas V

Mission target: Continuous solar observations from Earth orbit

Primary duration: Five years

Project description: Help us understand the Sun's influence on Earth and near-Earth space by studying the solar atmosphere on small scales of space and time and in many wavelengths simultaneously.

LASP provides:

- The Extreme Ultraviolet Variability Experiment (EVE)
- Mission operations for the EVE instrument
- Annual underflight rocket calibrations
- EVE Principal Investigator, Tom Woods

Other organizations involved:

- NASA GSFC
- Naval Research Laboratory
- MIT-LL (Lincoln Labs)
- NOAA/SWPC
- Univ. of Southern California
- Virginia Tech University
- Utah State University
- Space Environment Tech.

irradiance, understand how and why it varies, improve our capability to predict its variability, and to understand its effects on the geospace environment and human endeavors.

To read more about SDO/EVE, visit:

<http://lasp.colorado.edu/home/eve>.

The Laboratory for Atmospheric and Space Physics (LASP) combines all aspects of space exploration through our expertise in science, engineering, mission operations, and data management. As an institute at the University of Colorado Boulder, LASP includes students throughout our activities. Learn more at <http://lasp.colorado.edu>.