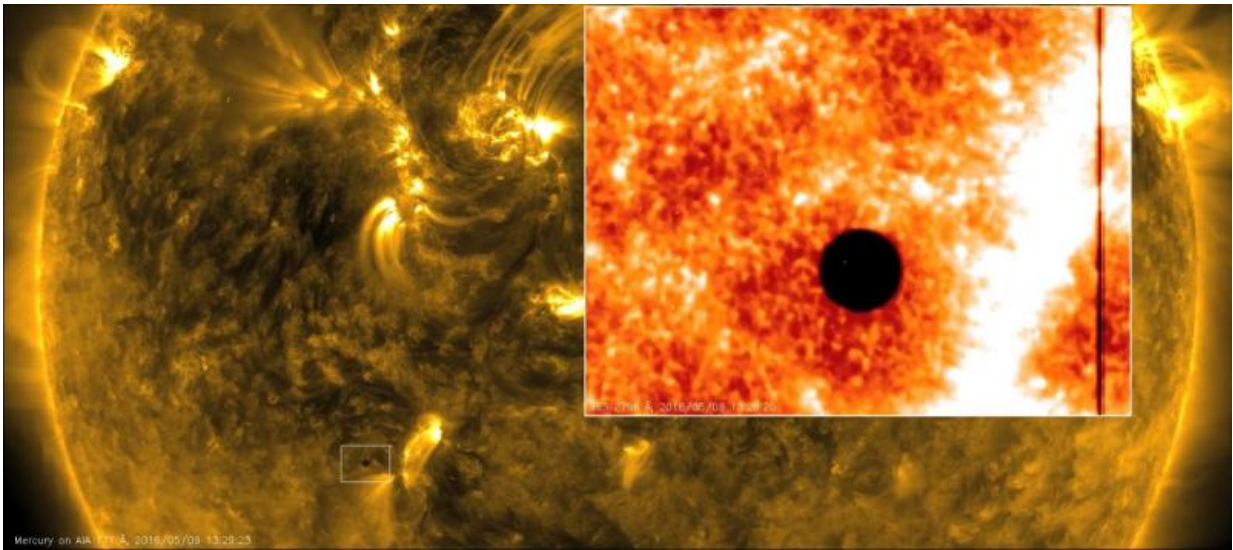


# Video: IRIS releases new imagery of Mercury transit

May 19 2016, by Karen C. Fox

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On May 9, 2016, a NASA solar telescope called the Interface Region Imaging Spectrograph, or IRIS, observed Mercury crossing in front of the sun—an astronomical phenomenon known as a Mercury transit. During the transit, IRIS focused on Mercury in order to help calibrate its telescope. By observing the planet—a region that ideally should appear completely dark—the team could determine just how the optics focus incoming light. IRIS can then be recalibrated to accommodate any changes that may have happened during launch into space.

This movie shows a composite of the IRIS imagery, in the inset, and imagery from NASA's Solar Dynamics Observatory, or SDO, as the golden background with a view of Mercury's transit moving from left to right across the bottom.

IRIS tracks a small portion of the sun—in incredibly high resolution—at any given time, so IRIS was able to track Mercury for 50-minute chunks of time after which the telescope was repointed. Repointing takes about 10 minutes during which time no data can be gathered, so IRIS was not able to see Mercury during its whole [transit](#). The inset shows a blend of IRIS observations with SDO filling in the gaps while IRIS was repointing.

The thin, dark line that appears in the IRIS imagery is a slit that helps focus incoming light for an instrument called a spectrograph. The spectrograph analyzes the wavelengths present in one thin slice of the telescope's view at a time. Information about the wavelengths helps IRIS determine the temperature and movement of the material hovering in the lower solar atmosphere, the chromosphere—a dynamic region of the sun that is mysteriously hotter than the surface of the sun itself. Understanding why the atmosphere gets hotter the farther away it gets from the original source of heat is a key area of study for IRIS.

Provided by NASA

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