THE 'GREAT AMERICAN' ECLIPSE 2017:
THE EXPEDITION

Miguel Pérez-Ayúcar, Manuel Castillo-Fraile,
Joe Zender, Abel De Burgos, Michel Breitfellner

The poster presents the 2017 Total Solar Eclipse expedition, organized by the CESAR Education initiative and the ESAC and ESTEC Communications offices, on the 21st August, 2017. The Sun experts from Solar Orbiter, Proba-2 and CESAR participated in an interactive broadcast of the event from the CESAR facilities at ESA-ESAC. The expedition team traveled to USA (Casper, Wyoming) to retransmit live the astronomical event. The most important moment of the eclipse was totality, lasting 2min 30sec, at around 17:42 UTC in Casper. The observation was ambitious and obtained good quality data, ranging from the inner and outer corona in visible light, the chromosphere and Baily's beads, cross polarization measurements, and the elements emission in a flash spectrum.

EXPEDITION OBJECTIVES

- **Engaging public event** by CESAR education at ESA-ESAC, and ESTEC/ESAC Comms offices (via main ESA portal)
- Interactive **broadcast** with experts from **Solar Orbiter, Proba-2 and CESAR**. Format: Google hangout, similar to Mercury Transit 2016.
- **Live image transmission** from USA with special cameras and spectrographs, plus usual set-up (hα-visible) of ESAC Helios Observatory.

LOCATION Casper Mountain Wyoming, USA, 21 Aug 2017

The Total Eclipse 2017 was observed on 21 Aug 2017, 10:42 local time (19:42 CEST) from Casper Mountain, Wyoming, with a totality of 2 min 25 sec. The site was selected for its dry weather conditions and altitude (2400 m, to reduce the atmospheric effects). The eclipse shadow took 1.5h to cross the continental USA from Oregon to S.Carolina.

THE TEAMS

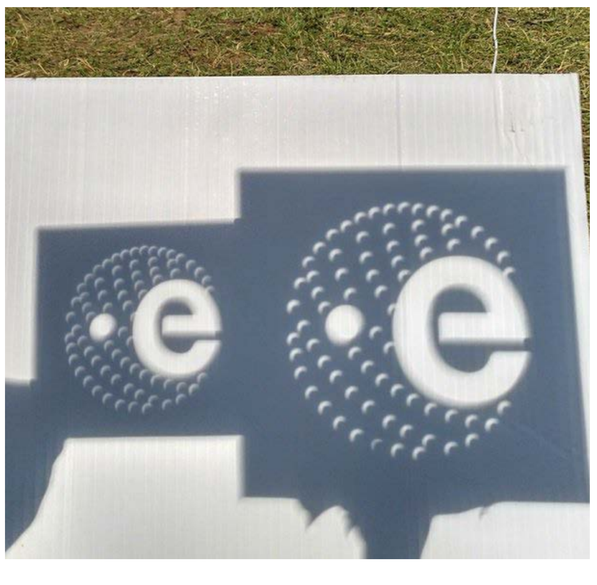
Comms and Web @ ESTEC

SCIENCE DATA

-- see accompanying posters !! --

• *During full eclipse*:
image sequence @15sec (~3h)

• *During totality*:
Baily beads (moon's valleys), **Diamond ring ,**
Inner and outer corona images and video,
Chromosphere, Emission spectra (H, Fe, Mg..),
Polarization of corona



http://cesar.esa.int/index.php?Section=Total_Eclipse_2017