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HIGH ALTITUDE OBSERVATORY

**SOLAR
ECLIPSE**



2017 Eclipse
Science Showcase
July, 21 2017

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Welcome

Scott W. McIntosh
Director, High Altitude Observatory



2017 Eclipse
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The 2017 Eclipse Science Showcase

Eclipse Science Overview and Q & A

Participants:

Dr. Carrie Black

Dr. Madhulika Guhathakurta

Dr. Scott McIntosh

The Eclipse Science Mingle

Eclipse 2017: Ignite!



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What is a Total Solar Eclipse?

<http://eclipsemega.movie>

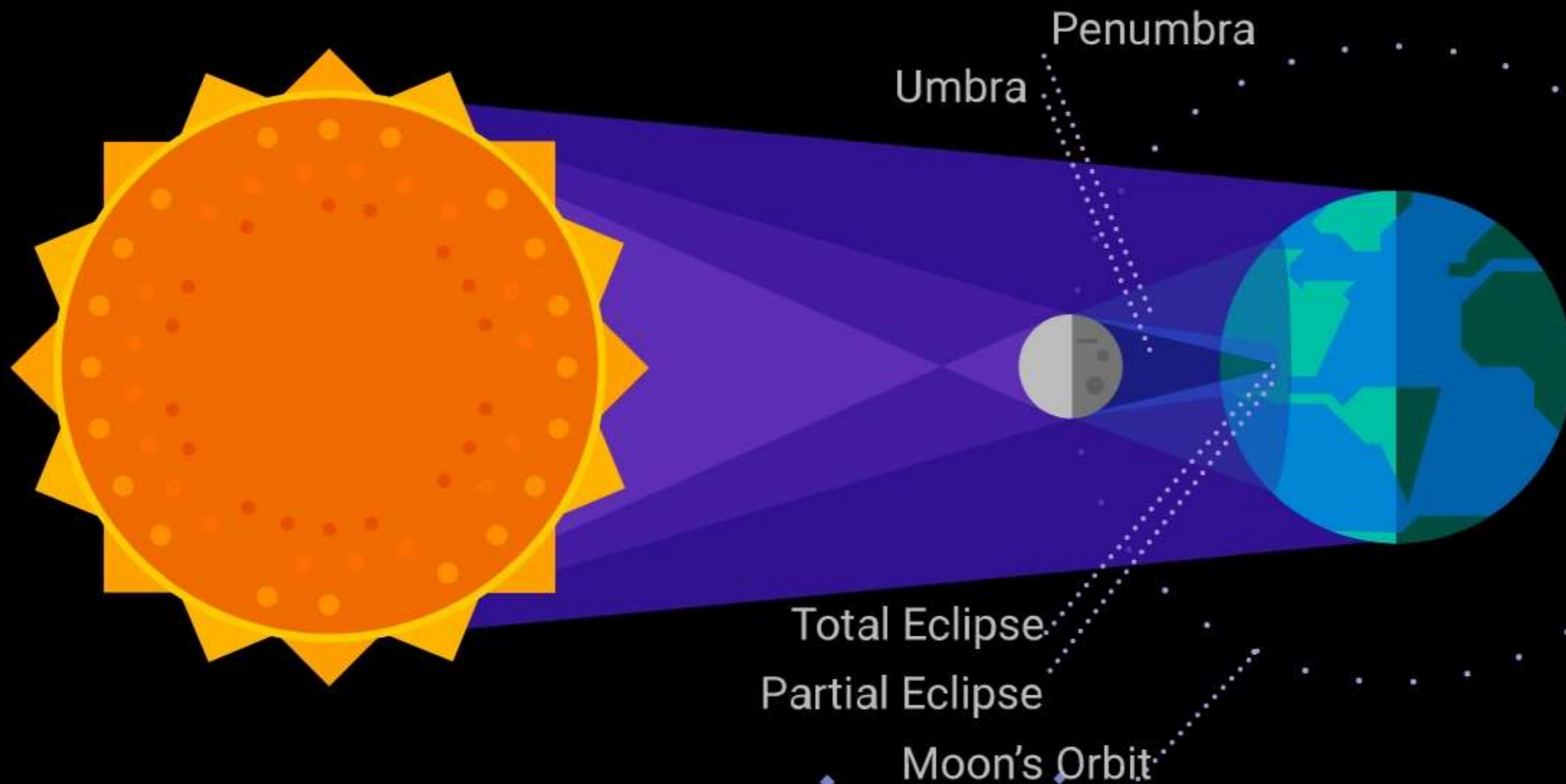


Diagram not to scale



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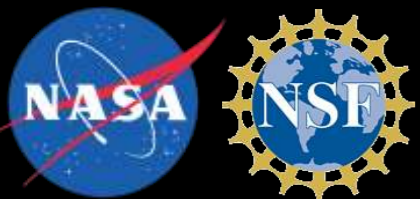
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The Great American Eclipse



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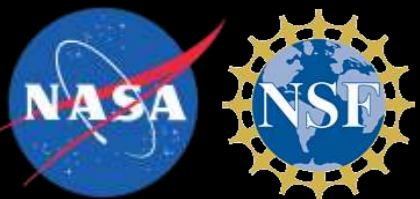
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Eclipses Help Us to Study the Sun's Corona



NASA/GSFC

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We live in the Sun's corona.....



NASA/GSFC



Power Grid Vulnerability



Space Infrastructure Vulnerability



Financial System Vulnerability



Astronaut Safety



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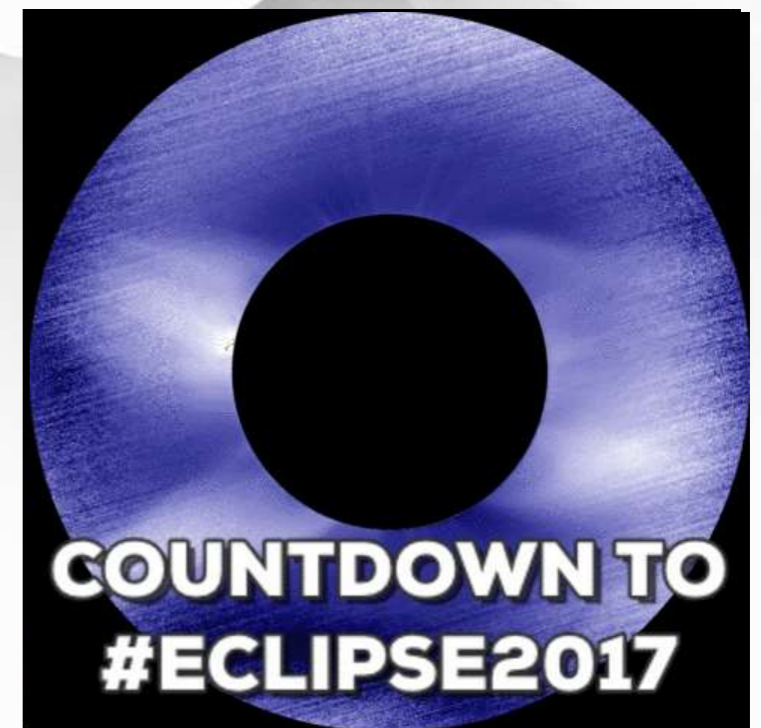
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Advanced artificial eclipse technology
can improve our ability to forecast
Space Weather

COSMO

<https://www2.hao.ucar.edu/cosmo>



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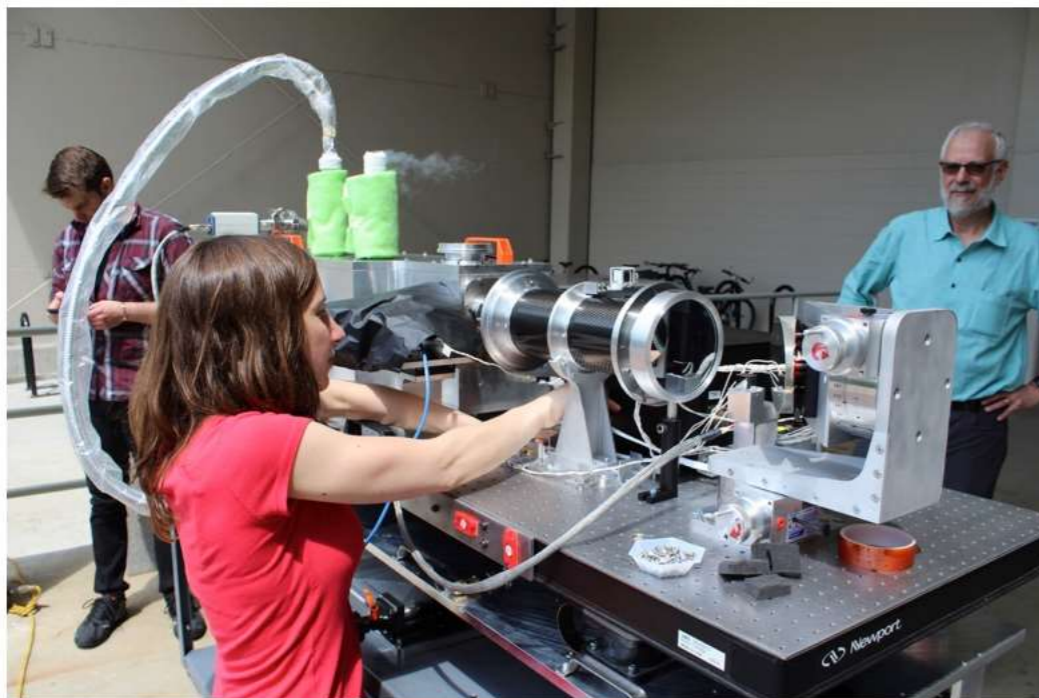
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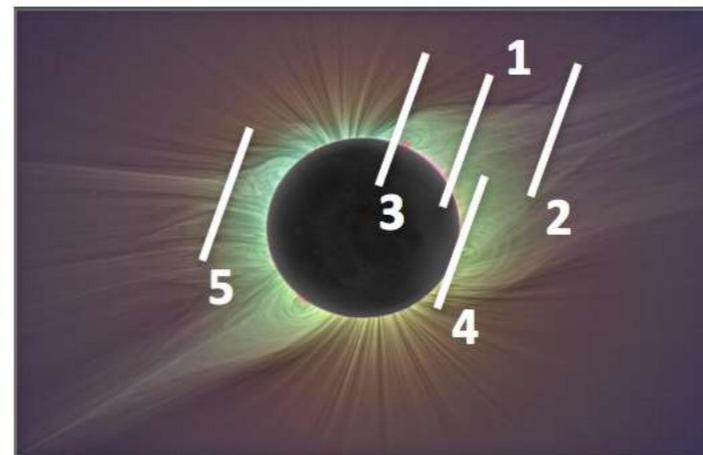
AIR-Spec



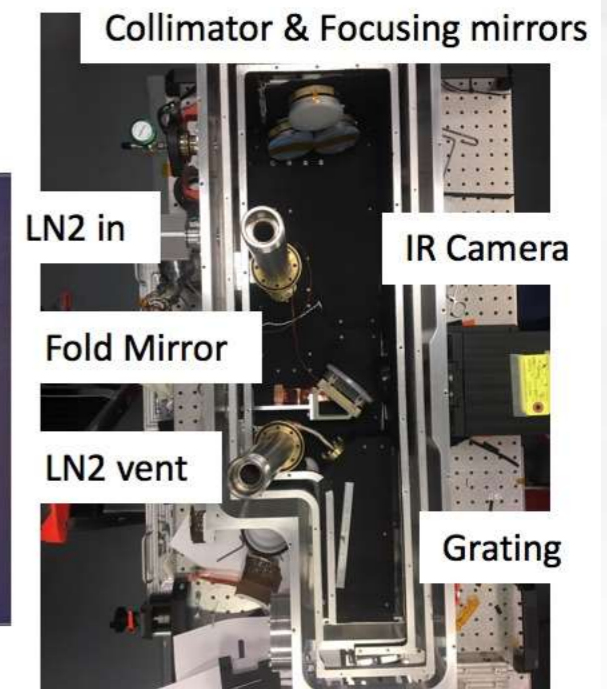
- E. DeLuca (SAO) PI, NSF MRI
- The first near-mid IR imaging spectroscopy of multiple lines
 - Si X 1.43; S XI 1.92; Fe IX 2.85; Mg VIII 3.03; Si IX 3.96 μm
- Instrument Scientist: Jenna Samra, PhD Thesis, Harvard U. School of Engineering and Applied Science



First Light July 10 2017



Draft Observing Plan



Entrance & Slit Spectrograph



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El Calafate, Argentina - July 11, 2010



4x SpeedUp

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Eclipses present a unique opportunity to push technological envelopes, engage the public, and get a stronger sense of the unending Sun-Earth connection.



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