NASA STEREO Science Writer's Workshop

Michael Kaiser, Project Scientist
NASA Goddard

Madhulika Guhathakarta, Program Scientist
NASA Headquarters

Janet Luhmann, IMPACT PI
UC Berkeley

Jim Adams, Deputy Project Manager
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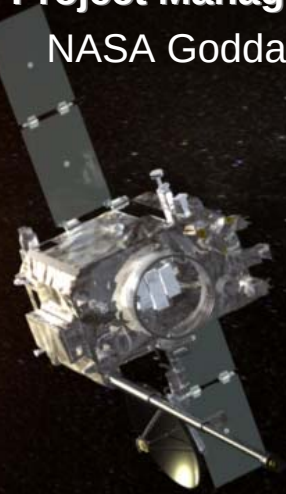


More information:
Rachel.A.Weintraub@nasa.gov

http://www.nasa.gov/stereo

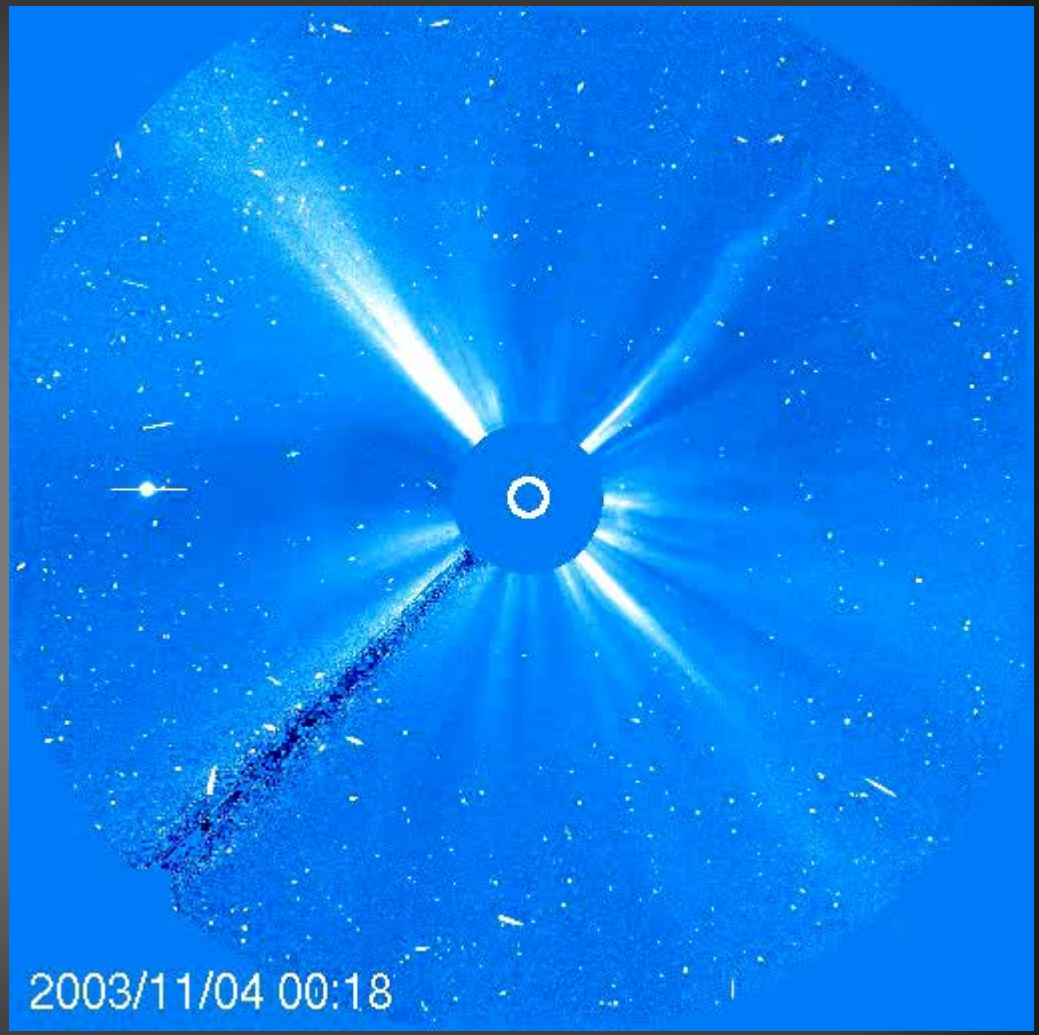
STEREO's Objectives

Understand start of coronal mass ejections (CMEs)

Explore how CMEs move through solar system

Understand start of solar energetic particles

Develop a 3-D model of the solar wind



So, why in stereo?

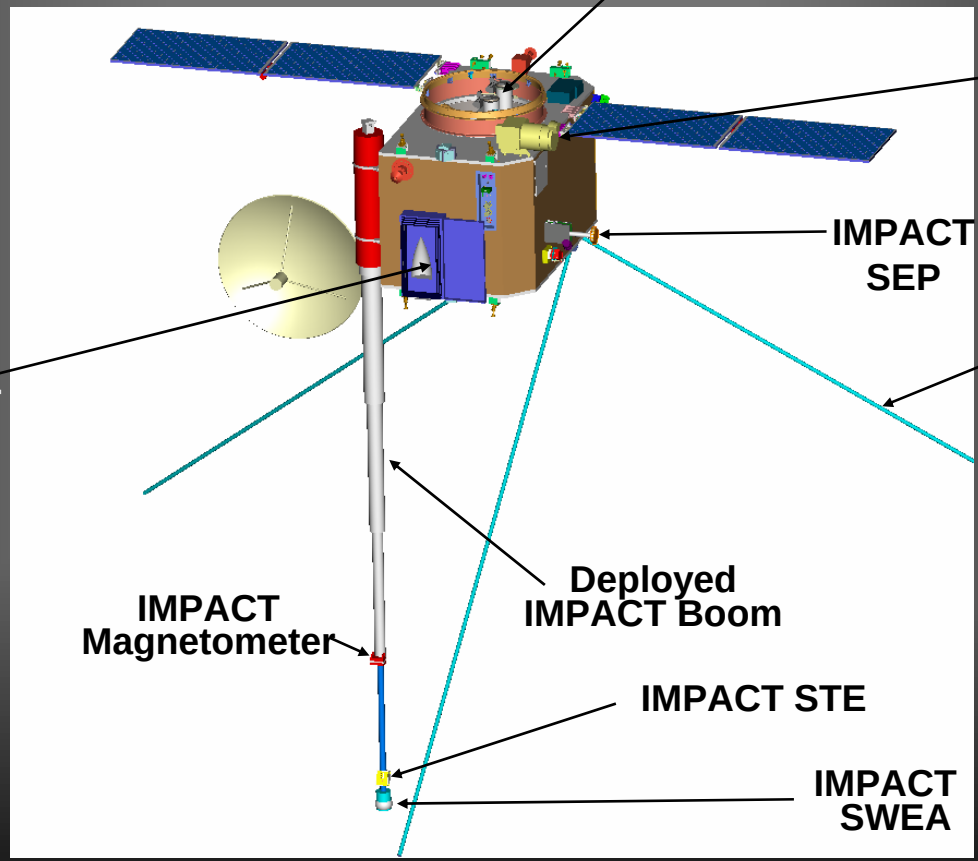
Terrestrial power systems

Spacecraft charging

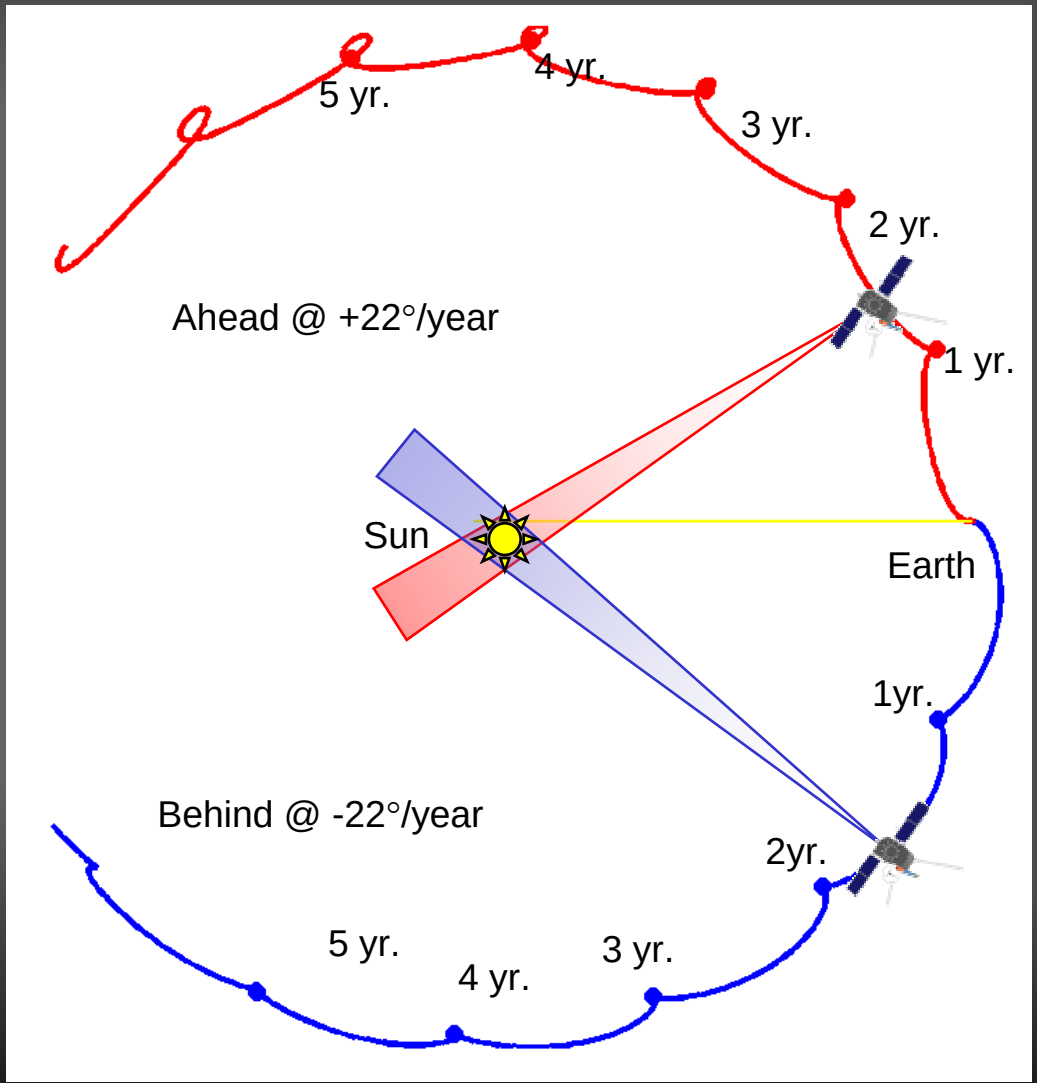
Astronauts can experience radiation exposure in high inclination orbit and outside of Earth's magnetosphere

Airline polar routes

Two Nearly Identical Observatories



STEREO's Unique Orbit



Launch + 90 days

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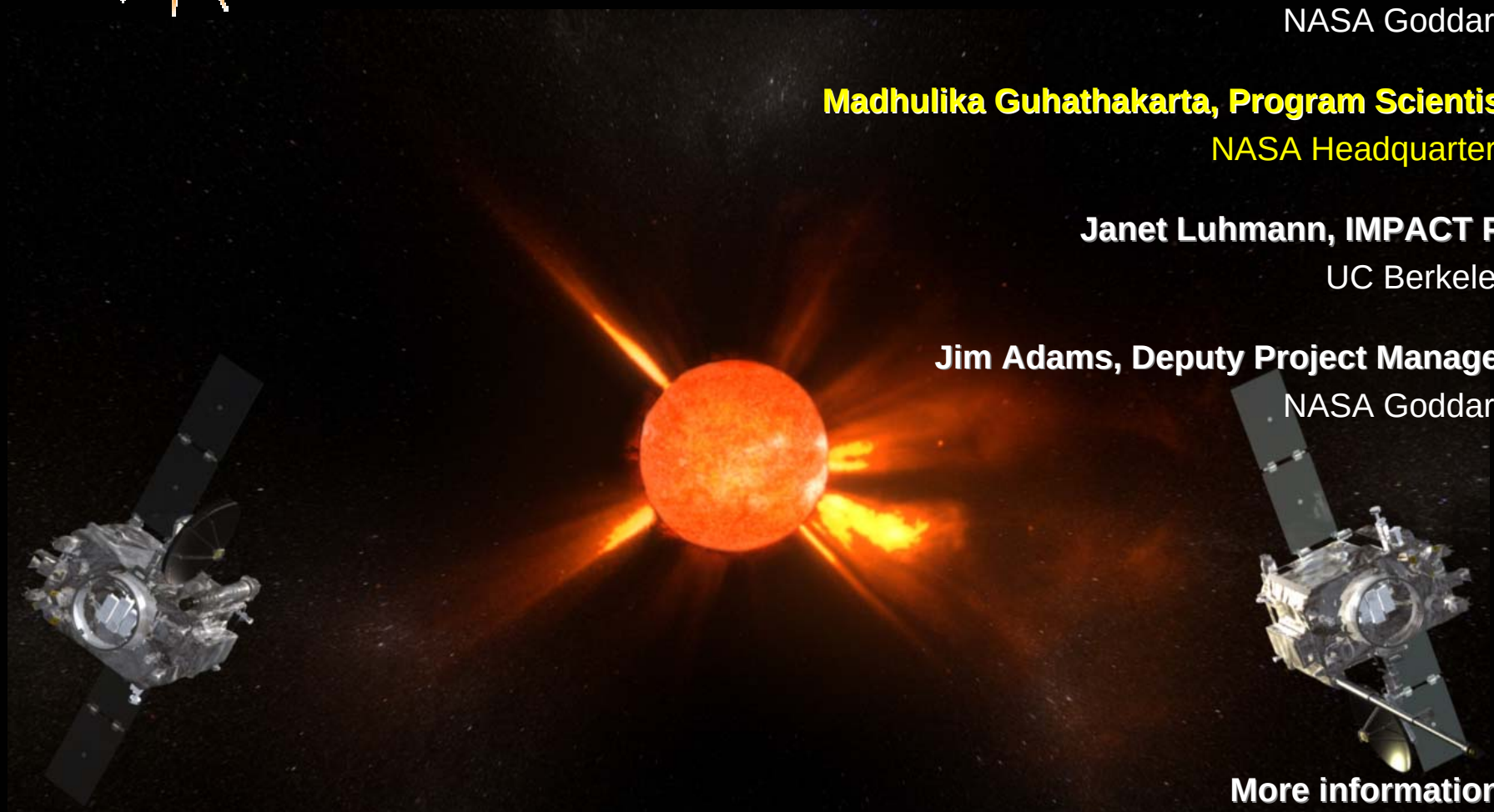

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Heliophysics Division
Science Mission Directorate

The Exploration of the:

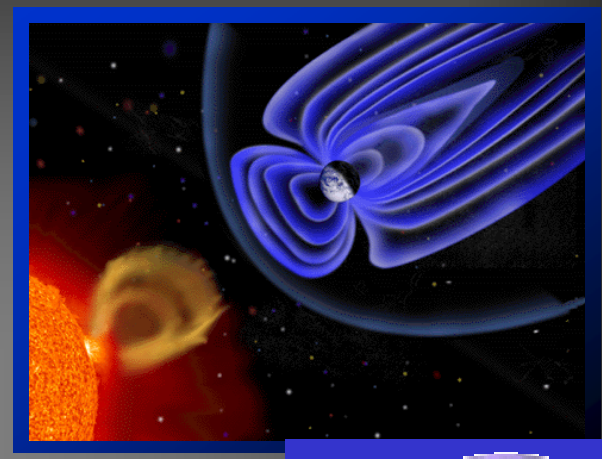
- Sun
- Its Effects on the Planets of the Solar System, and
- Space Environmental Conditions and Their Evolution

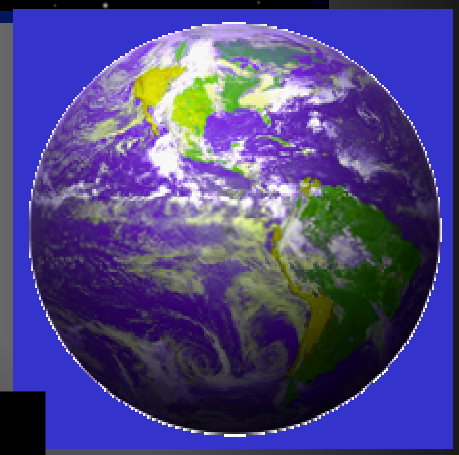
Why Do We Care?

- **Solar variability affects technology, humans in space, and Earth's climate.**
- **The sphere of the human environment continues to expand above and beyond Earth.**

  - Increasing dependence on space-based systems

  - Permanent presence of humans in Earth orbit and beyond

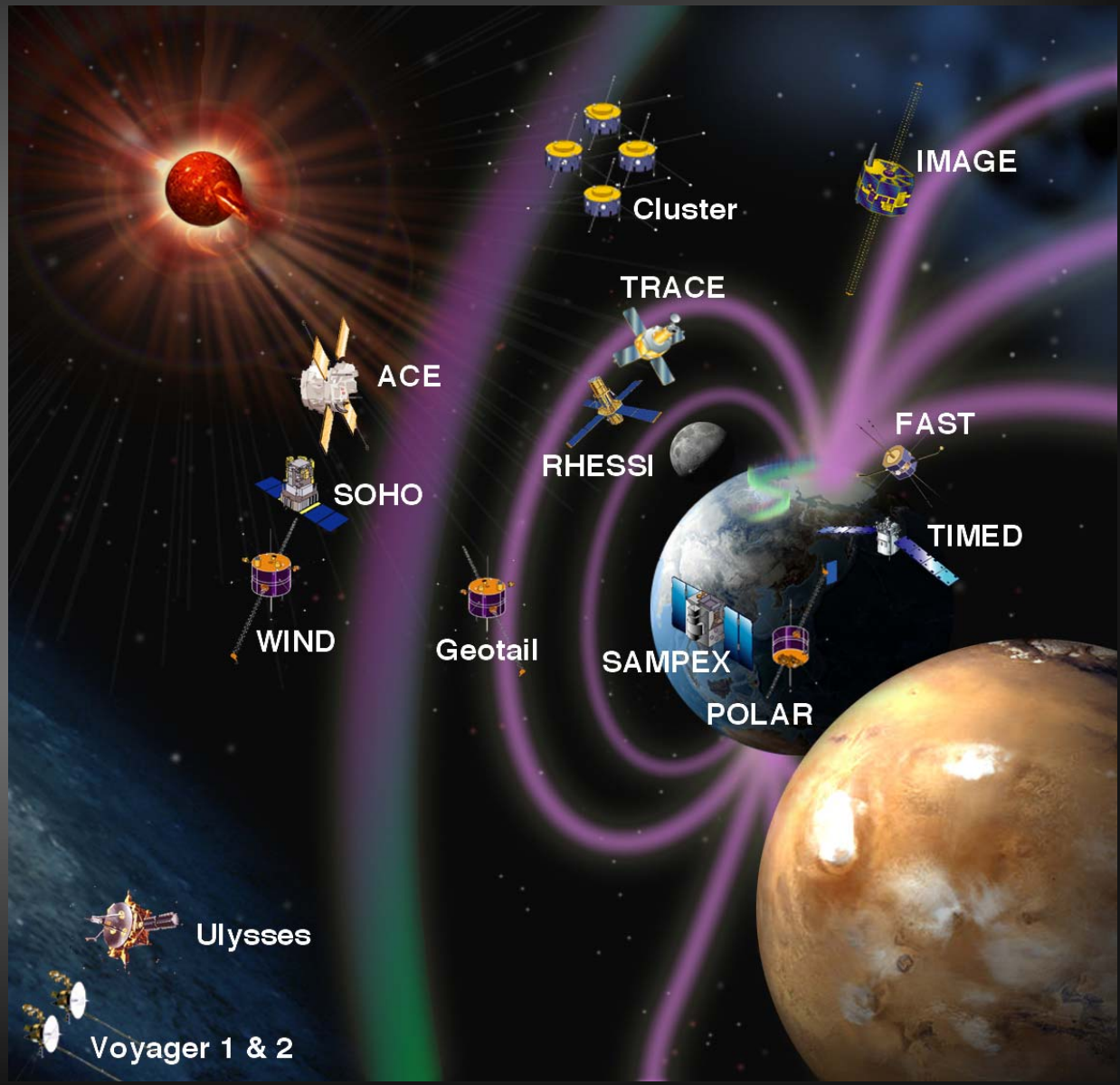




Heliophysics Great Observatory

NASA Short Term Approach:

Research program with existing NASA assets to create space weather prediction capability at the moon and Mars



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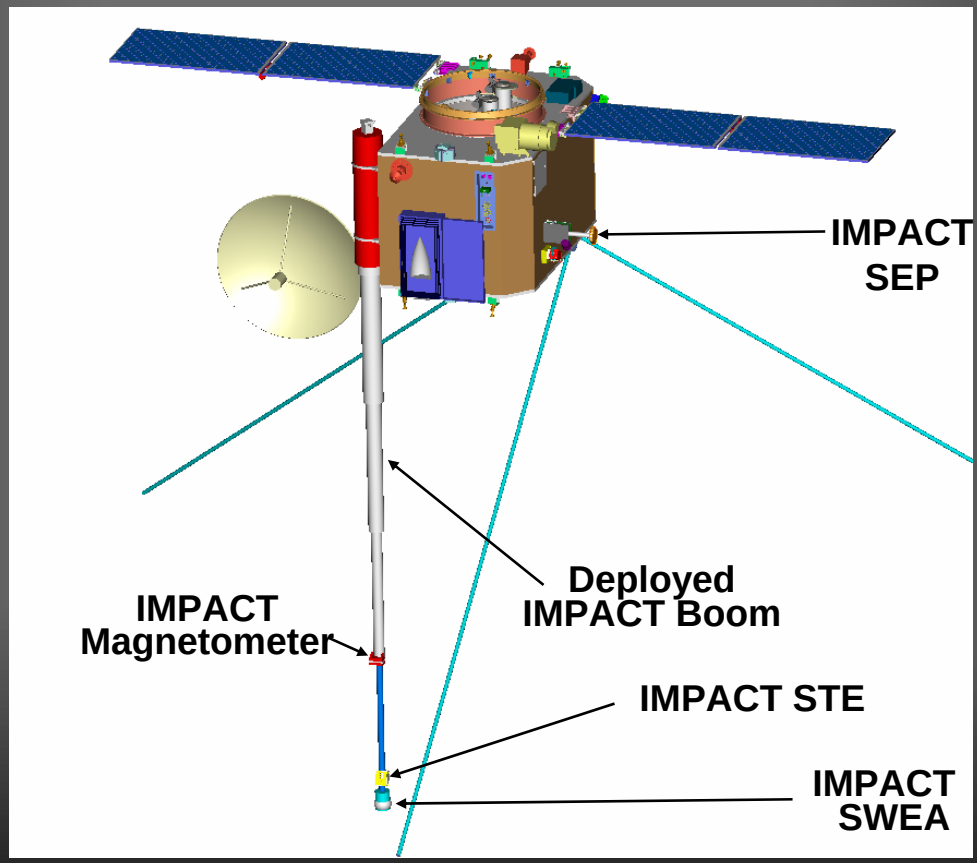
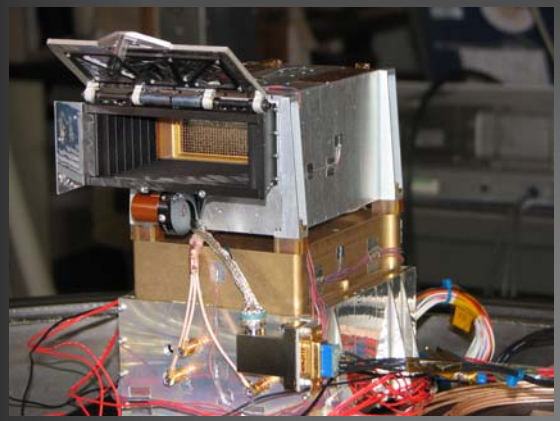
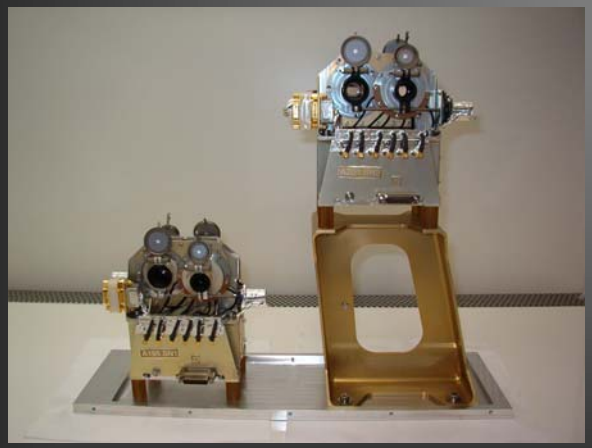
The IMPACT instrument



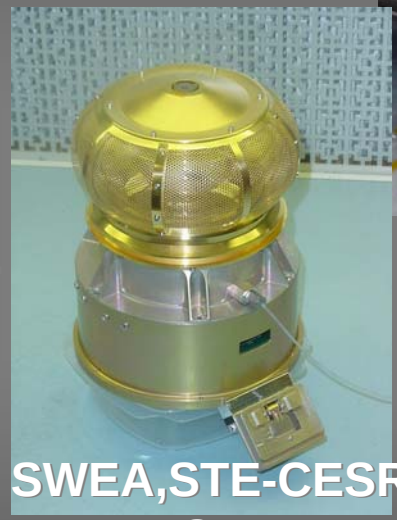
IMPACT family portrait …



SIT- U of Md, Max Planck Inst.



SEPT- U of Kiel, ESTEC



SWEA,STE-CESR, UCB

SWEA, MAG-CESR, GSFC

LET, HET-Caltech, JPL, GSFC

The IMPACT boom

Boom deployment test at UCB

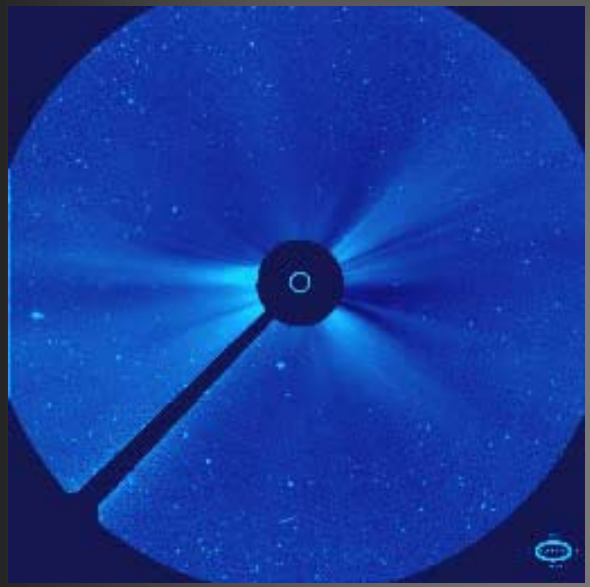
…Ready for shipment to APL

IMPACT investigation ready to go …

IMPACT Boom Integration

IMPACT SEP suite integration

Berkeley Audio Project

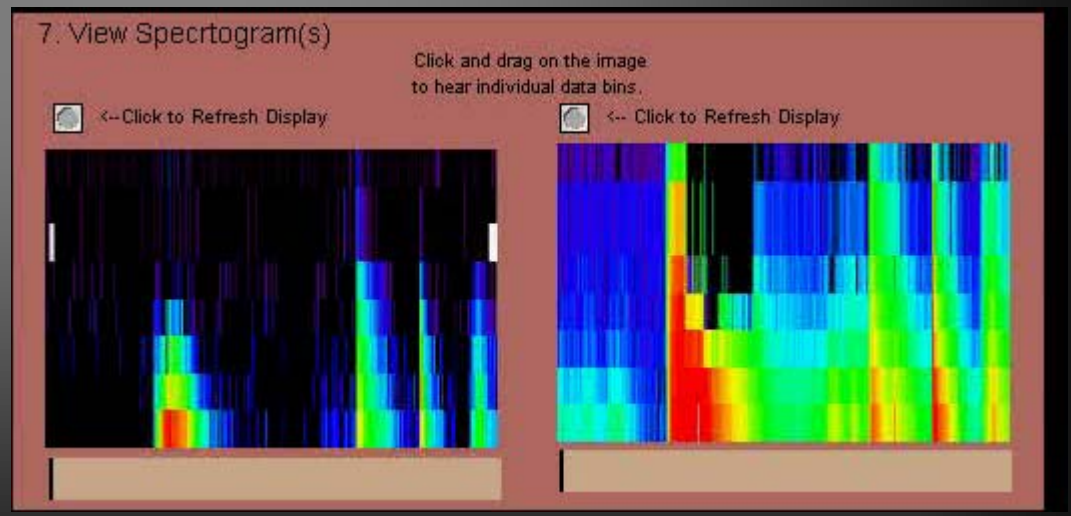


• Above: audio clip plays over a month of changes in the solar corona

• Together, musicians and scientists turn solar data into sounds.

• Below: solar wind Iron and Helium fluxes at different energies collected over one month.

• The RGB value of each color in the graph determines the pitch played by the program.



http://cse.ssl.berkeley.edu/impact/sounds.html

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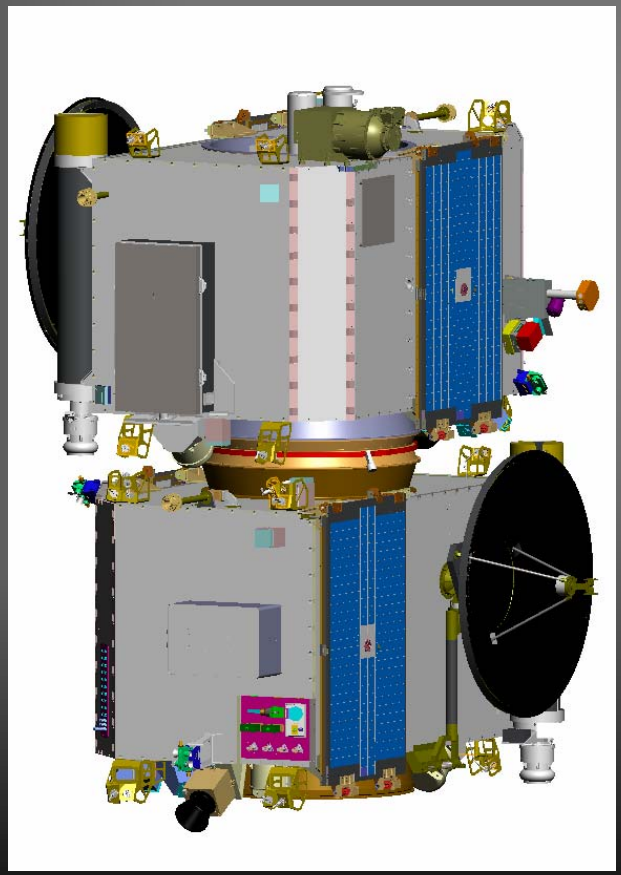
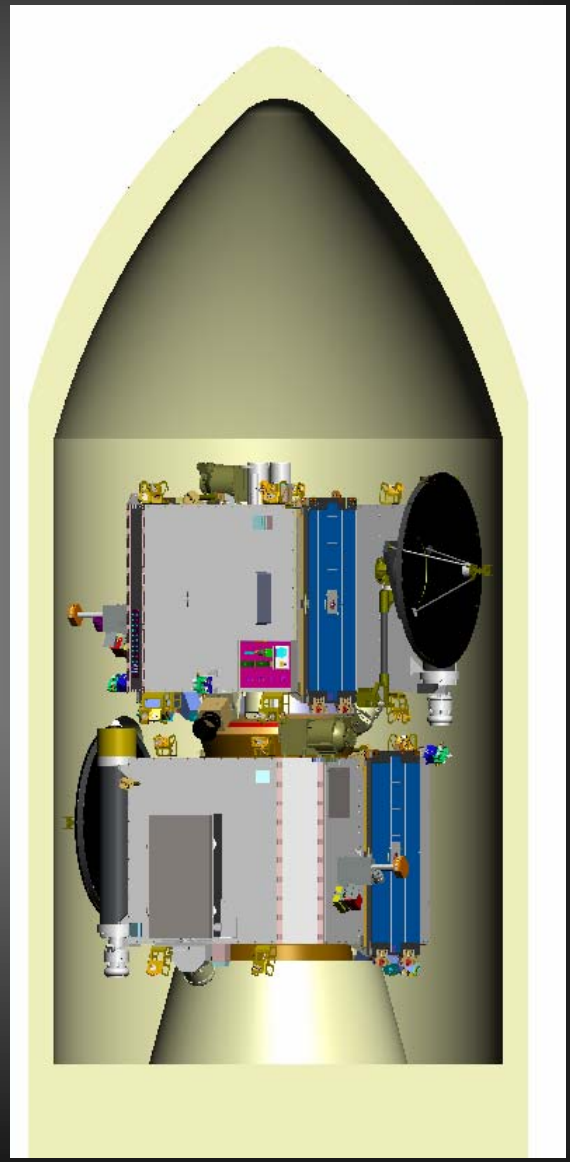
Launch Window

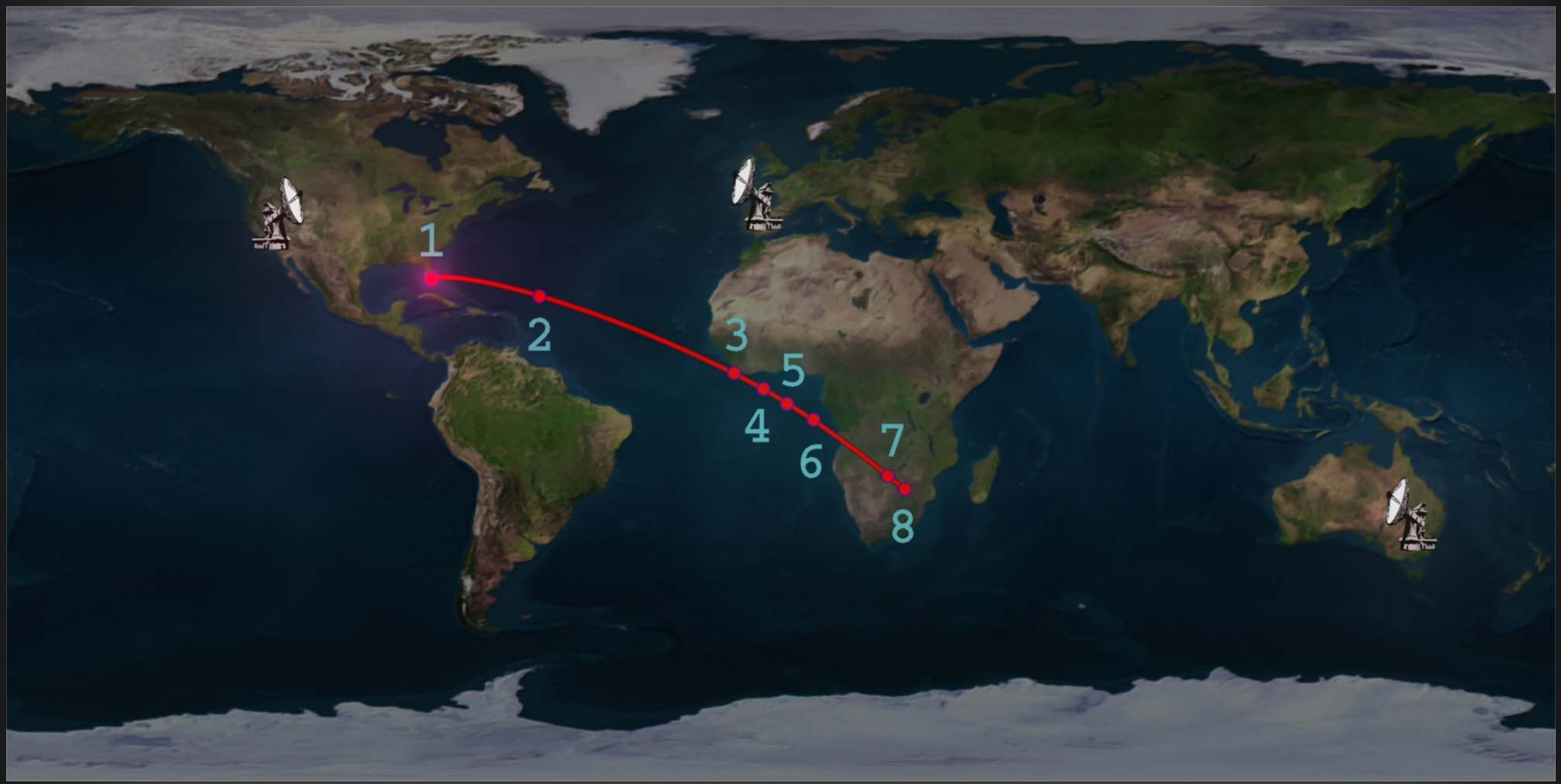
May 26 – June 8

~3:30 pm EDT

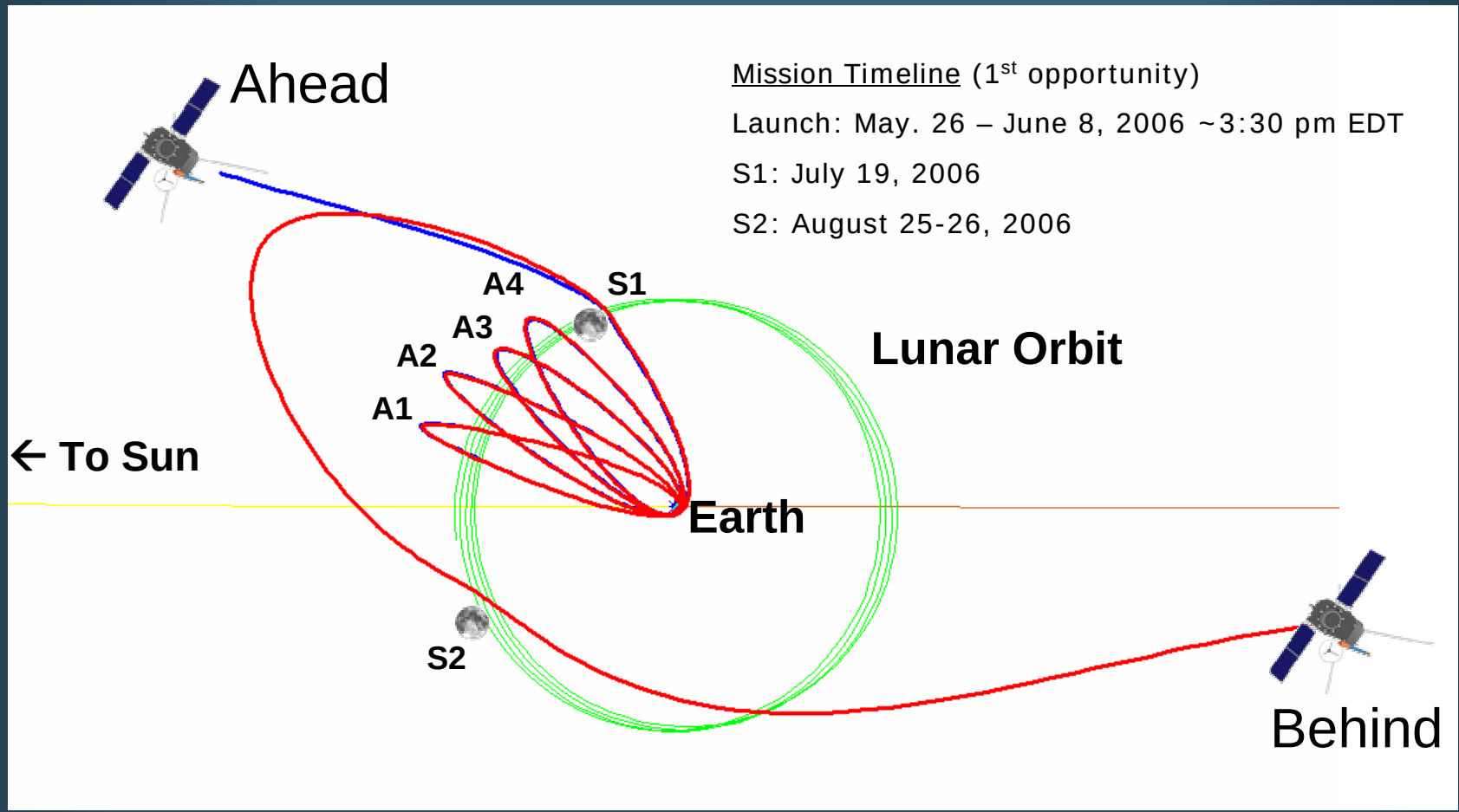




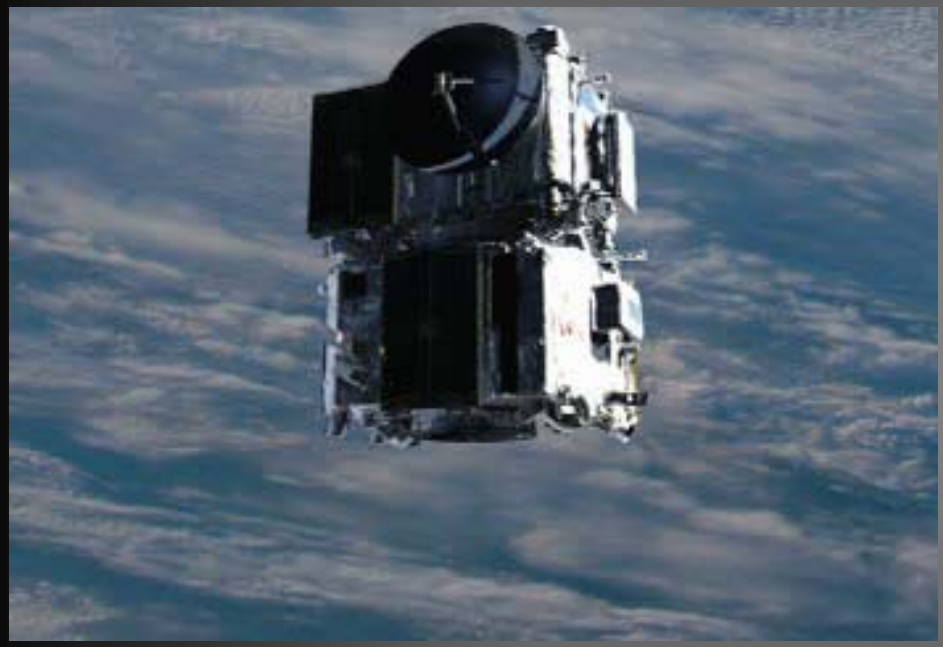
Communicating with STEREO



Getting There …



Launch Specifics



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