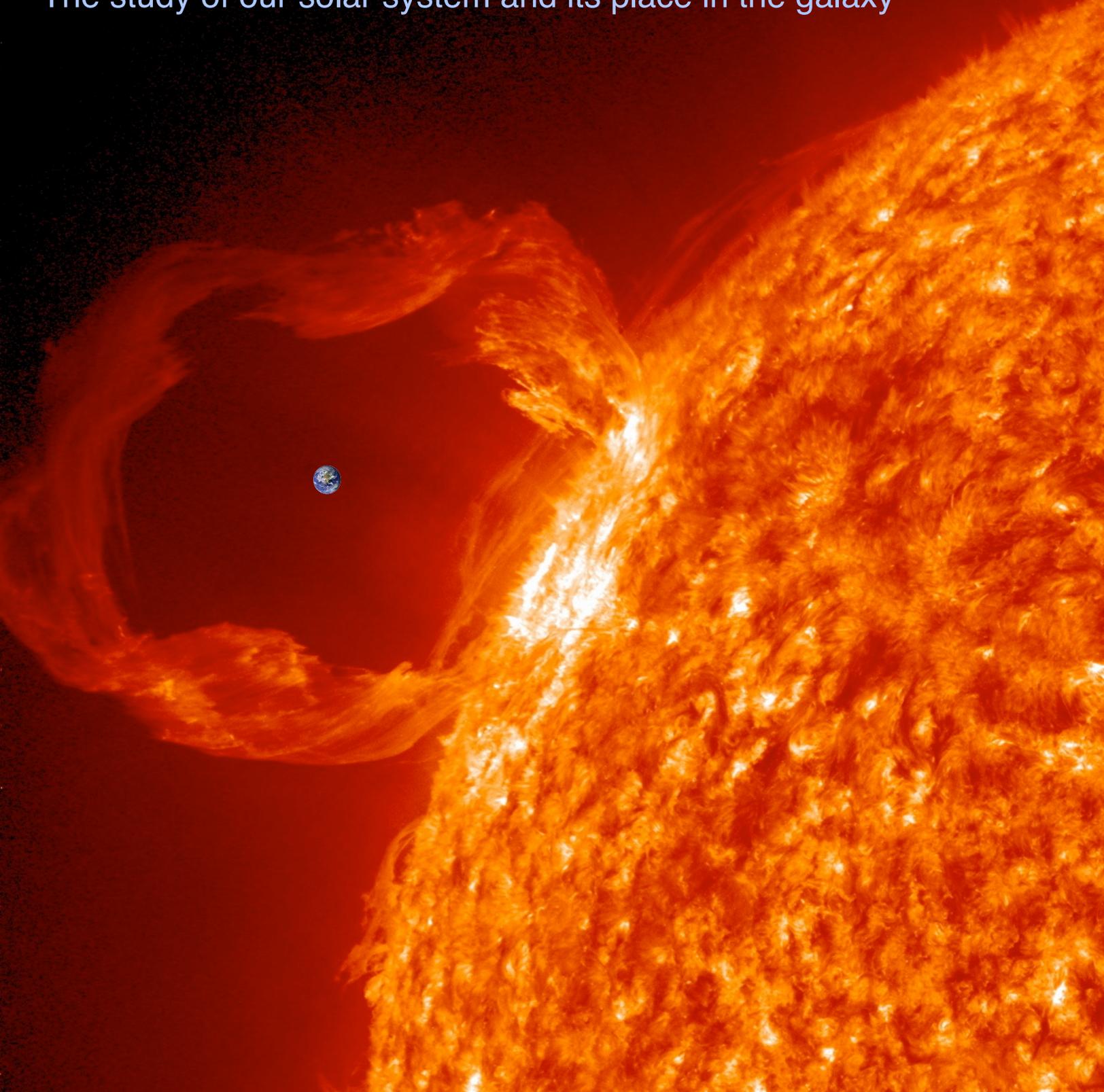


Solar and Space Physics are...

- The science of how our Sun works
- The science of Earth's magnetic shield
- The key to understanding *Space Weather* and its effects on Earth
- The study of our solar system and its place in the galaxy

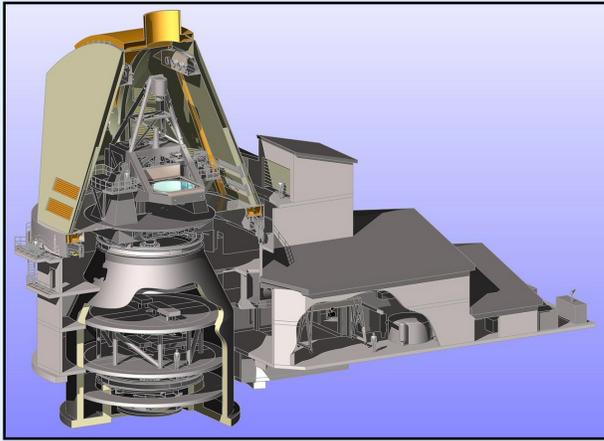


From the interior of our Sun to the power grids on Earth to beyond the orbit of Pluto...

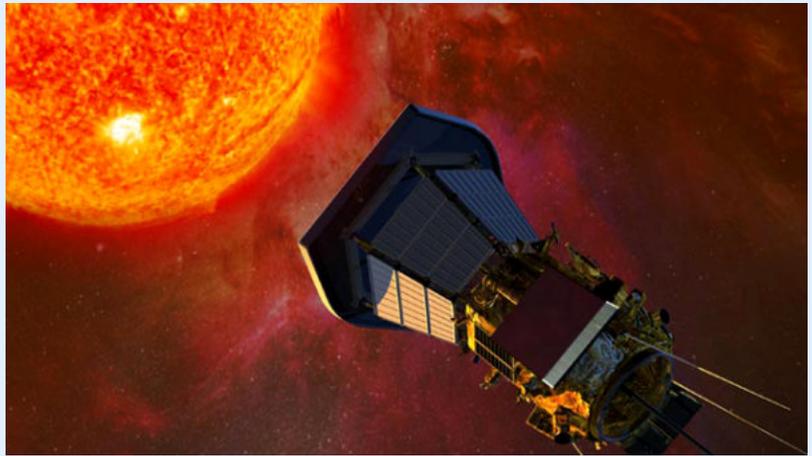
SDO/AIA image of the 30-March-2010 solar eruption. The blue dot is Earth approximately to scale.

Courtesy NASA and Lockheed Martin Solar and Astrophysics Laboratory

Flagship facilities and missions



NSF's Advanced Technology Solar Telescope (ATST)
The world's largest and most complex solar telescope



NASA's Solar Probe Plus
Diving into the Sun's corona to directly measure sources of space weather

Mid-scale facilities and missions

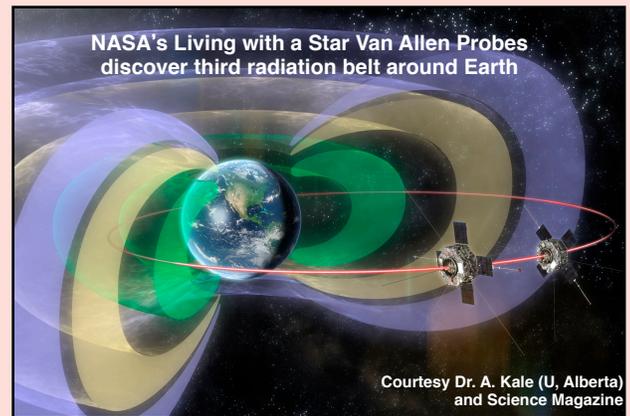


NSF's Frequency Agile Solar Radio Telescope
Radio images of Solar Eruptions



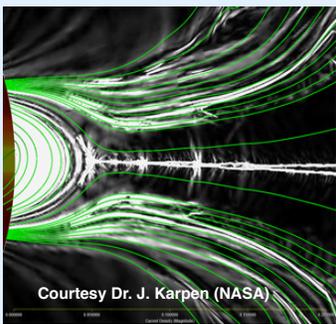
Japanese/US/UK "Solar-C"
Heating of the Sun's atmosphere

Exciting Science

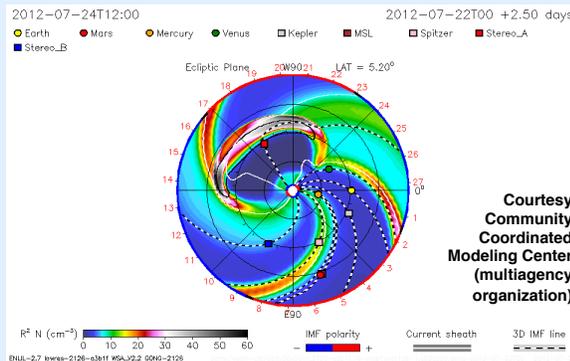


NASA's Living with a Star Van Allen Probes
discover third radiation belt around Earth
Courtesy Dr. A. Kale (U. Alberta) and Science Magazine

Theory and numerical modeling



Courtesy Dr. J. Karpen (NASA)
Simulations give insight into complex observations
Magnetic reconnection leads to a solar eruption



Modeling eruptions to forecast Space Weather
The huge July 23, 2012 eruption missed Earth

Courtesy Community Coordinated Modeling Center (multiagency organization)

DRIVE initiative

- **Diversify observing platforms**
Microsatellites and Mid-scale missions
- **Realize science potential**
Sufficiently fund data analysis
- **Integrate platforms**
Strengthen ties between agency disciplines
- **Venture forward**
Science centers, technology development
- **Educate & inspire**
Empower next generation of space researchers

Research and Analysis (R&A), Explorers, and Educational components of DRIVE are vulnerable in current budget scenarios – we need your support!

<http://spd.aas.org>

