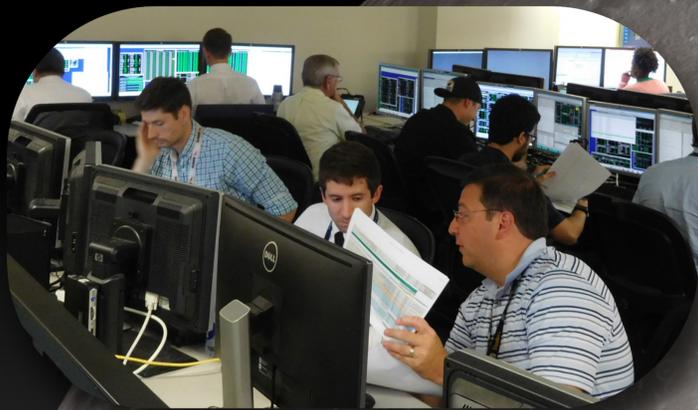
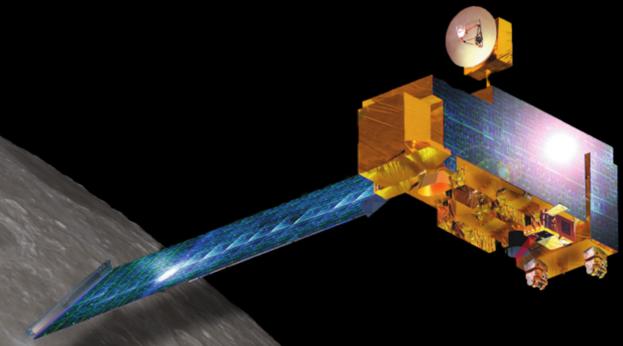
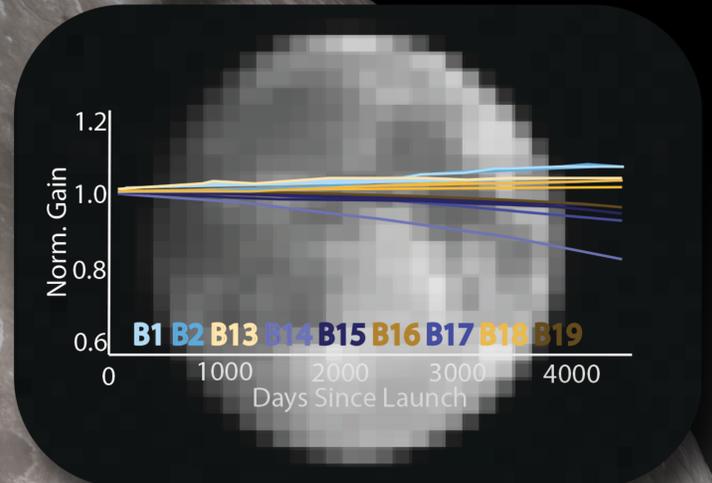


TERRA FLIPS FOR SCIENCE

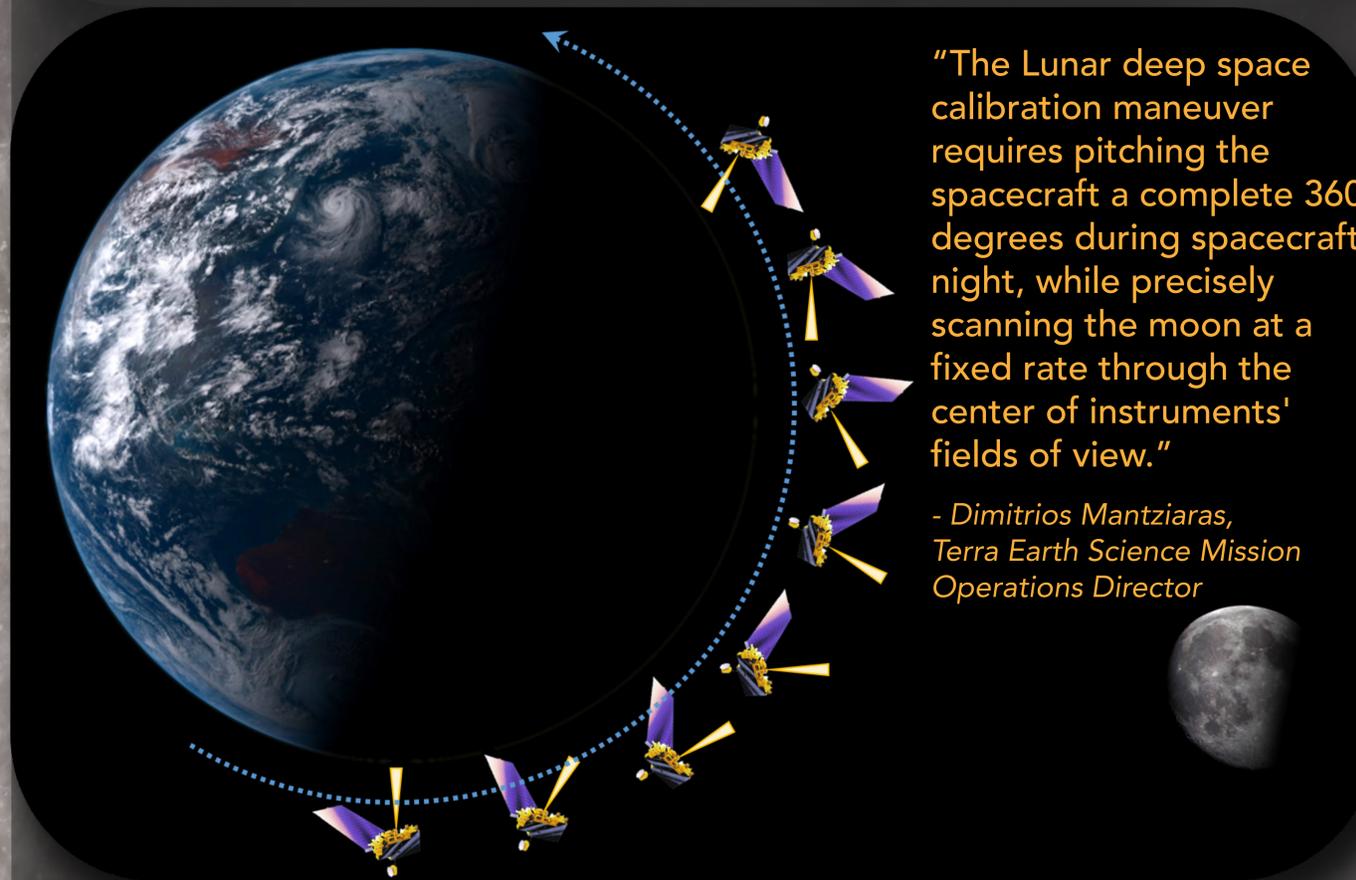


After three years of discussion, planning and preparations, Terra's flight operations team successfully executed a Lunar Deep Space Calibration maneuver on Aug. 5, 2017.



"The Moon is like a standard candle or lamp: the amount of energy from it is well known, if you look at it periodically, it allows you to see if your instruments are changing over time."

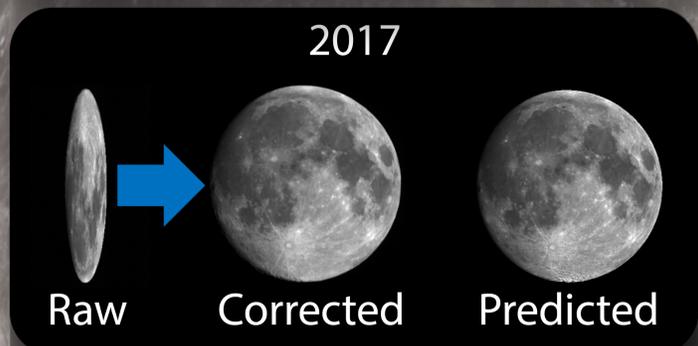
- Kurt Thome, Terra Project Scientist



"The Lunar deep space calibration maneuver requires pitching the spacecraft a complete 360 degrees during spacecraft night, while precisely scanning the moon at a fixed rate through the center of instruments' fields of view."

- Dimitrios Mantziaras, Terra Earth Science Mission Operations Director

The Moderate Imaging Spectroradiometer (MODIS) looks to the moon monthly to continuously calibrate its sensors. The different bands and their corrections are noted in the graph in the foreground. The background image is the MODIS image of the moon from the 2017 August 5 lunar deep space calibration maneuver.



The Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) was corrected to account for Terra's motion and distance to the moon during the maneuver and compared with predictions (above) and results from the 2003 maneuver (below).



This complex and risky maneuver allowed the mission team to recalibrate Terra's imagers, improving instrument accuracy and providing data to calibrate other satellites.



MISR, the Multi-angle Imaging Spectroradiometer, has nine cameras that image Earth from different angles. This image shows the moon from three of the nine cameras. During the lunar maneuver, each camera saw the almost-full Moon straight on. This means that the different focal lengths produced images with different resolutions.