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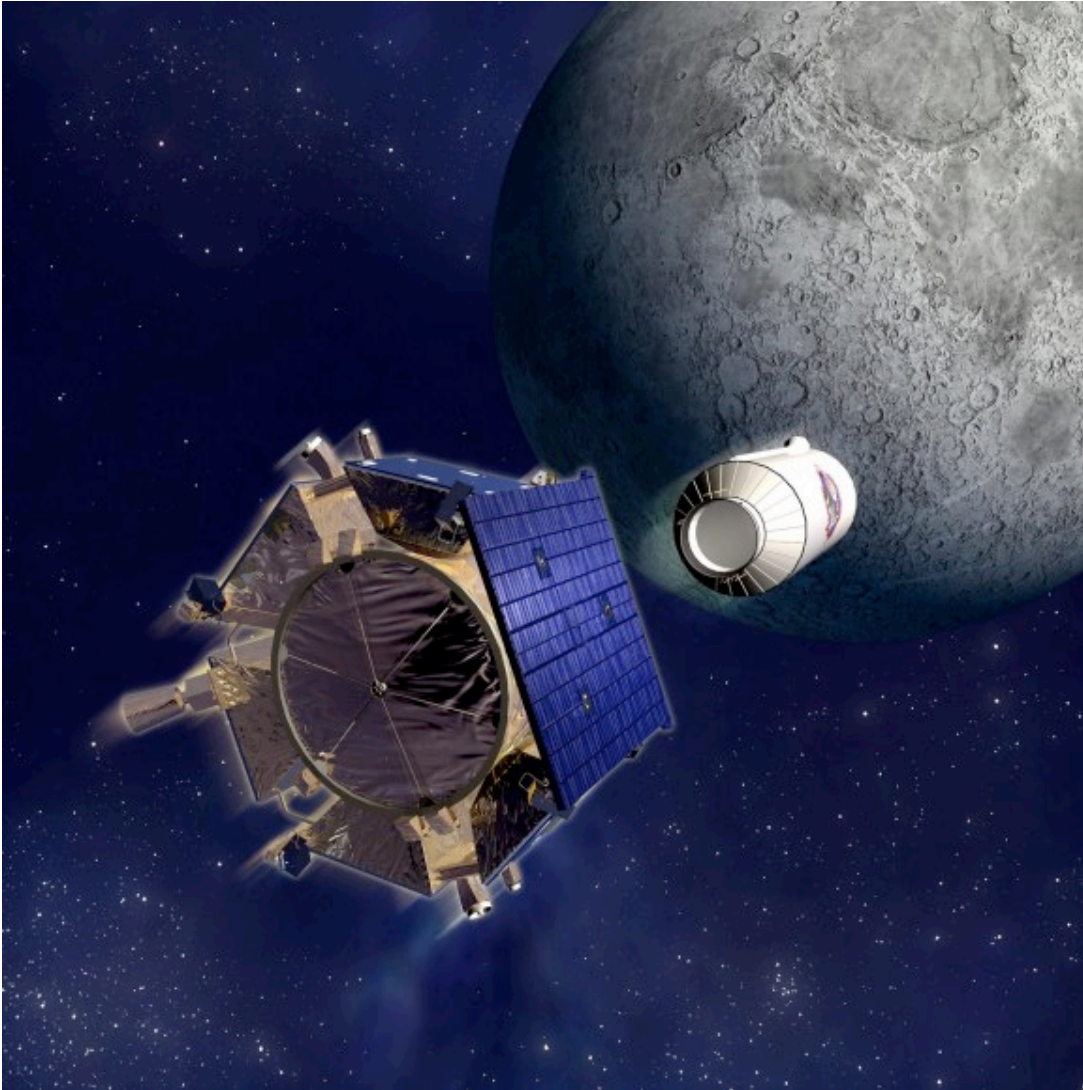
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## [Missions, Moon](#)

September 28th, 2009

## [LCROSS Team Changes Target Crater for Impact](#)



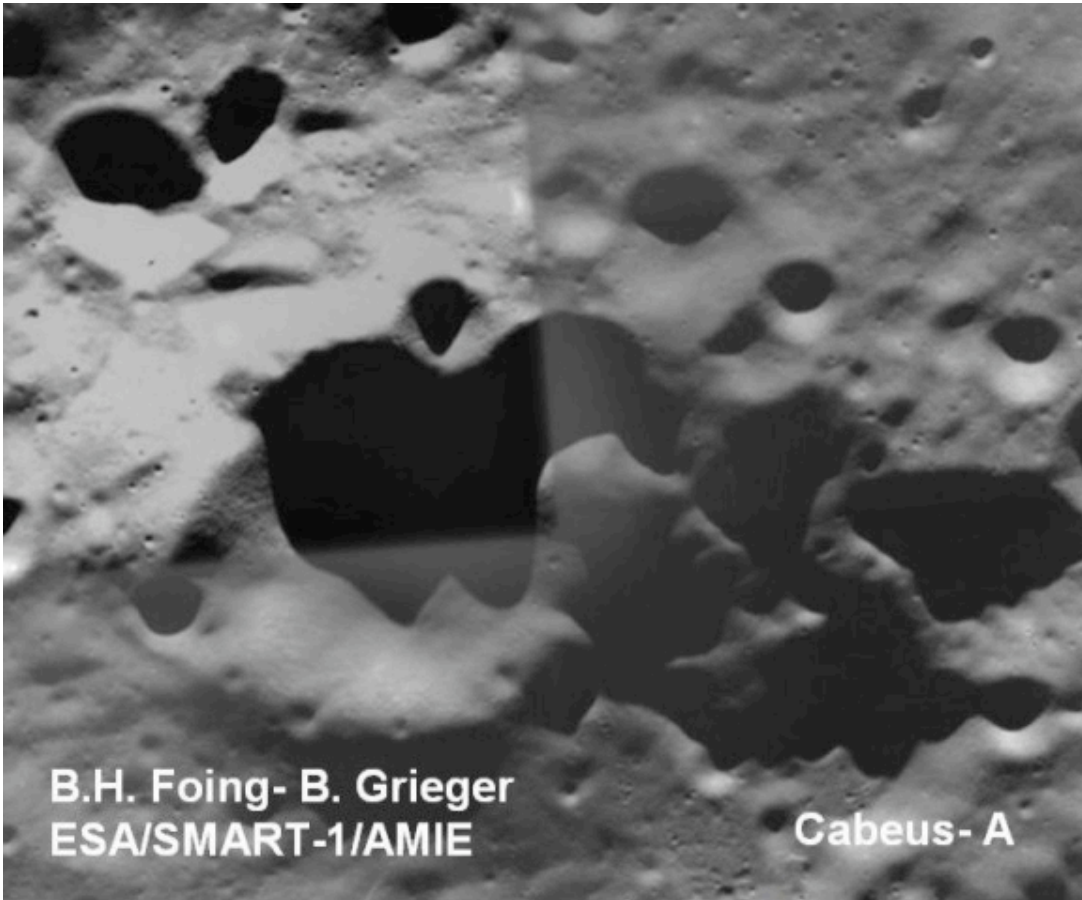
Based on new analysis of the latest [lunar data](#), the science team for NASA's [Lunar Crater](#) Observation and Sensing Satellite mission (LCROSS) decided to change the target crater for impact from Cabeus A to Cabeus (proper). The decision was based on a consensus that Cabeus shows, with the greatest level of certainty, the highest hydrogen concentrations at the south pole. The most current terrain models provided by JAXA's Kaguya spacecraft and the LRO Lunar Orbiter Laser Altimeter (LOLA) was important in the decision process, as the latest models show a small valley in an otherwise tall Cabeus perimeter ridge, which will allow for sunlight to illuminate the [ejecta](#) cloud, making it easier to see from [Earth](#).

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September 25th, 2009

## [SMART-1 Releases Image of LCROSS Impact Site](#)



ESA's SMART-1 team has released an image of the future impact site of NASA's [Lunar Crater Observation and Sensing Satellite \(LCROSS\)](#). The SMART-1 team searched through their database to find images of Cabeus A, where LCROSS will search for water ice by making two impacts into this crater at the lunar south pole. The impacts are scheduled for 11:30 and 11:34 am UT on 9 October 2009. This image was taken four years ago by SMART-1, a spacecraft that ended its mission in 2006 by deliberately crashing [to the Moon](#), similar to what LCROSS will do, hoping to exhume materials buried under the lunar surface, particularly water ice. "This is like gathering evidence for a Crash Scene Investigation, but before the action takes place," said Bernard Foing, SMART-1 project scientist.

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August 25th, 2009

## [LCROSS Anomaly Causes "Substantial" Fuel Loss](#)



LCROSS on its way to impact. Credit: NASA

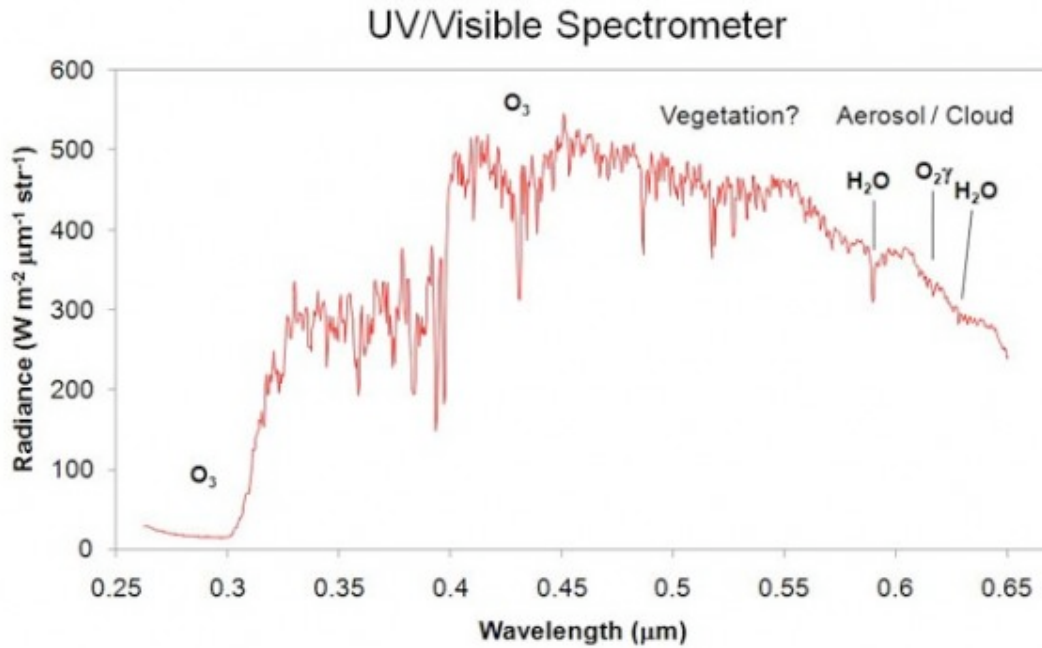
The operations team for the [Lunar Crater](#) Observation and Sensing Satellite (LCROSS) mission has discovered the spacecraft experienced an anomaly, causing it to use up a substantial amount of its fuel. According to spacecraft data, the LCROSS Internal Reference Unit (IRU) experienced a fault. The IRU is a sensor used by the spacecraft's attitude control system (ACS) to determine the orientation and trajectory of the spacecraft. The anomaly caused the spacecraft ACS to switch to the [Star](#) Tracker Assembly for spacecraft positional information and caused the spacecraft's thruster to fire excessively, consuming a substantial amount of fuel. Initial estimates, however, indicate that the spacecraft still contains sufficient fuel to complete the full mission.

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August 4th, 2009

## [LCROSS Sees Life on Earth](#)



LCROSS UV/Visible spectrum. Credit: NASA

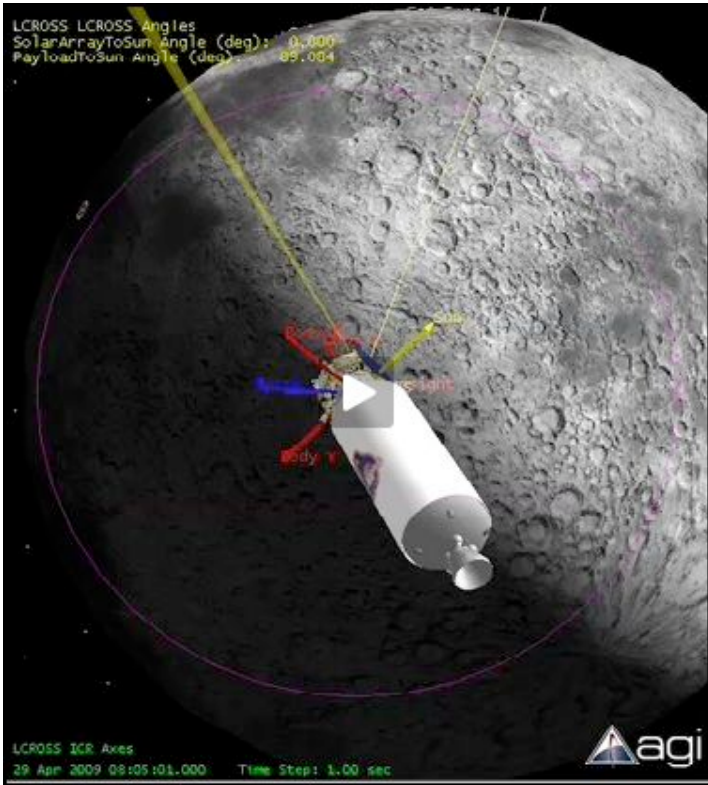
The LCROSS spacecraft took a look back at [Earth](#), and guess what it saw? Evidence of intelligence? Not so much. But it did see evidence of life. On Aug. 1, 2009, the LCROSS spacecraft took a gander at Earth to help calibrate and test its science payload. During the Earth observations, the spacecraft's spectrometers were able to detect the signatures of the Earth's water, ozone, methane, oxygen, carbon dioxide and possibly vegetation.

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June 23rd, 2009

[\*\*LRO Successfully In Lunar Orbit; LCROSS Provides Flyby Video\*\*](#)

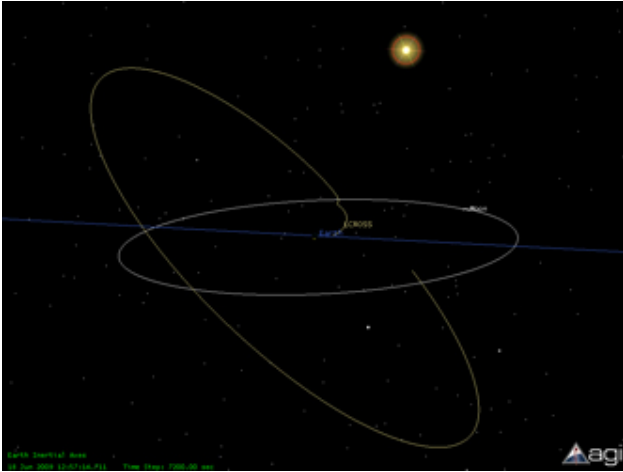


The [Lunar](#) Reconnaissance Orbiter fired its braking thrusters for 40 minutes early today, successfully inserting the spacecraft into [orbit](#) around the [Moon](#). Over the next several days, LRO's instruments will be turned on and its orbit will be fine-tuned. Then LRO will begin its primary mission of mapping the lunar surface to find future landing sites and searching for resources that would make possible a permanent human presence on [the moon](#). Also, early Tuesday, the companion mission Lunar [Crater](#) Observation and Sensing Satellite (LCROSS) sent back live video as it flew 9,000 km above the Moon, as it enters its elongated [Earth orbit](#), which will bring it on course to impact the Moon's south pole in October. [Read more...](#)

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June 22nd, 2009

## [Watch Live Streaming Video From LCROSS Lunar Swingby Tuesday](#)



On Tuesday morning, the LCROSS spacecraft will fly by the [Moon](#) only 9,000 km above the [lunar](#) surface and send back live streaming video for about an hour. This relatively close encounter with [the Moon](#), will help put LCROSS in the correct position to impact the lunar surface in October. LCROSS will never actually be [lunar orbit](#), but is working its way to an elongated [Earth orbit](#) which will eventually bring it to the correct orientation for meeting up with the south pole of the Moon later this year. LCROSS will search for water ice on the moon by sending the spent upper-stage Centaur rocket to impact part of a polar [crater](#) in permanent shadows. The LCROSS spacecraft will fly into the plume of dust left by the impact and measure the properties before also colliding with the lunar surface. Live video streaming of the [flyby](#) begins at approximately 12:20 GMT (8:20 EDT) on Tuesday, June 23, 2009. [Click here to watch.](#)  
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