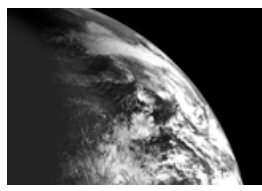


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India's Moon Probe On Track For Lunar Orbit
 By K. S. Jayaraman
 Space News Correspondent
 posted: 5 November 2008
 12:52 pm ET

BANGALORE, India - India's Chandrayaan-1 lunar orbiter has successfully tested a vital camera and performed an orbit-raising maneuver that puts it on course to reach the moon by this weekend.

The Indian Space Research Organisation (ISRO) said Tuesday that Chandrayaan-1, the country's [first-ever moon probe](#), entered its lunar transfer trajectory after a fifth and final orbit-raising maneuver carried out early that day. During the maneuver, the spacecraft's rocket engine fired for about 150 seconds, raising its apogee to about 236,121 miles (380,000 km) - the moon's average distance from Earth.

"Chandrayaan-1 will approach the moon on November 8, 2008, and the spacecraft's liquid engine will be fired again to insert the spacecraft into lunar orbit," ISRO officials said. All systems [onboard the spacecraft](#) are performing normally, they added.

The 3,042-pound (1,380-kg) Chandrayaan-1 has already [beamed back the first images](#) from the Terrain Mapping Camera it will use to map the lunar surface.

ISRO officials unveiled some of the images Friday, revealing a view of Australia from high above Earth. The camera, to be used to map the lunar surface with a ground resolution of 16.4 feet (5 meters), is one of 11 instruments aboard Chandrayaan-1.

Chandrayaan-1 snapped the photos on Oct. 29, spotting first the northern coast of Australia from an altitude of about 5,592 miles (9,000 km) at about 8:00 a.m. Local Time in India. About 4 1/2 hours later, the probe caught country's southern coast from a height of 43,495 miles (70,000 km).

India launched the \$87 million Chandrayaan-1 spacecraft toward the moon on Oct. 22. The lunar orbiter includes a 64-pound (29-kg) impact probe, which it will release to [crash into the lunar surface](#), and carries five Indian instruments and six others provided by the U.S., Britain, Sweden, Germany and Bulgaria.

Chandrayaan-1 will join [Japan's Kaguya orbiter](#) and China's Chang'e 1 spacecraft at the moon when it arrives in lunar orbit this weekend. The Japanese and Chinese probes launched in 2007. NASA plans to launch its next moon probe, the Lunar Reconnaissance Orbiter, in Spring 2009.

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This image of the Earth was taken by ISRO's Chandrayaan-1 spacecraft while on its way to the Moon on 29 October 2008, at 03:30 CET (08:00 Indian standard time). This view of Earth, one of the probe's first shows northern

SPACE.com staff contributed to this report from New York City.

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Fireaxe888 wrote:

Bravo India! Nice to see some newcomers to moon exploration!

posted 11/5/2008 1:05:49 PM

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Ruri wrote:

How come none of these new probes take a direct route to the moon?
Limitations of the LV's lift capacity or wanting to test the vehicle?

posted 11/5/2008 1:19:40 PM

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jer35mx wrote:

One last step of risk and the objective is at hand, Good work India.

posted 11/5/2008 3:39:42 PM

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Rickstar wrote:

Ruri;
i think it has to do with far less fuel & money required, to get into lunar orbit, if they take this (longer, keplerian/newtonian) path. Awsome shots of Australia & Earth! Can't wait to see it's shots, from Lunar orbit! How fast will it's impact probe be travelling, when it impacts the Lunar surface? How big a crater will this create? Where on the surface will it impact? Can't wait to see what this may tell us about the surface...:-)

posted 11/5/2008 5:56:36 PM

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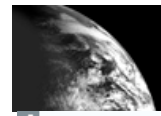


mrmorris wrote:

>How come none of these new probes take a direct route to the moon?

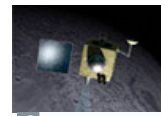
A direct route to the moon would require a higher delta-v requirement. This would mean a smaller payload. The current strategy means the probe takes a few days more to get to the moon, but with a mission duration of a year or more, this is a tiny price to pay in trade for more instruments on the probe. The direct route makes sense only for a manned mission where the needs of the payload (i.e. astronauts) and the ECLSS costs of a longer flight trump the DV cost.

the probe's first, shows northern Australia. Credit: ISRO.



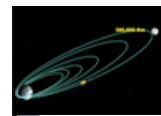
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This image of Earth was taken by ISRO's Chandrayaan-1 spacecraft while on its way to the Moon on 29 October 2008, at 08:00 CET (12:30 Indian local time). The image shows the southern coast of Australia from a height of 70 000 km. Credit: ISRO.



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India's Chandrayaan-1 is an Indian Space Research Organization (ISRO) mission designed to orbit the Moon over a two year period. Packed with an international suite of science instruments, the orbiter is headed for a late 2007-2008 launch. Credit: Dan Roam



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This ISRO graphic depicts the orbital paths of India's Chandrayaan-1 moon orbiter. Credit: ISRO.

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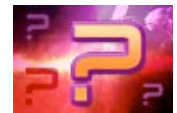
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AusSpaceFreak wrote:

Nice pics of the homeland

posted 11/5/2008 6:42:53 PM [3 Recommend](#) | [Report Abuse](#)



normancopeland wrote:

Bollywood is bigger than hollywood, Indian food is Englands number 1 choice restuarant and most popular food. An indian cricket batman has just surpassed a West indian cricket batmans for all career runs scored. Hindi deities/gods still teach one quarter of the worlds population about anthromorphic animals such as 'elephants, monkeys and other different perhaps exotic colour species'...

India still has the largest *aryan* community on the planet. The mid to southern America 'White' americans are still evolving towards being brown skinned.

China watches America develope technology and just copies it once the american development budget has done the work.

Indias number 1 beer 'Cobra' is still delicious and Indias airtime satellite communications offer independant lesser ambitious countries like England cheaper usage of the satellites systems for communication companies to rent...

The english government company the 'East india railway company' does not import opium from asia anymore and has resulted with a significant lessening of infrastructure development that may be connected to afghanistan farming fiscal policy and the A.W.O.L syndrome is still rife...

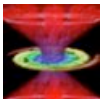
posted 11/6/2008 7:55:44 AM [11 Recommend](#) | [Report Abuse](#)



Fireaxe888 wrote:

Also,glad to see that there's a Bulgarian instrument on board.My home country!

posted 11/6/2008 8:50:03 AM [4 Recommend](#) | [Report Abuse](#)



Terran62 wrote:

Congratulations ISRO, nice use of orbital/gravity techniques too!

Ozzyland, Watch Out! They've got their Eye on you. /grin

posted 11/6/2008 1:36:27 PM [1 Recommend](#) | [Report Abuse](#)



Maxwell99 wrote:

A great accomplishment! It would be rather rude to suggest the money might be better spent on their people and problems except that we spend so much money on a disengenuous war and they have not inflicted any collateral damage at all in their quest.

posted 11/7/2008 1:47:38 PM [6 Recommend](#) | [Report Abuse](#)

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