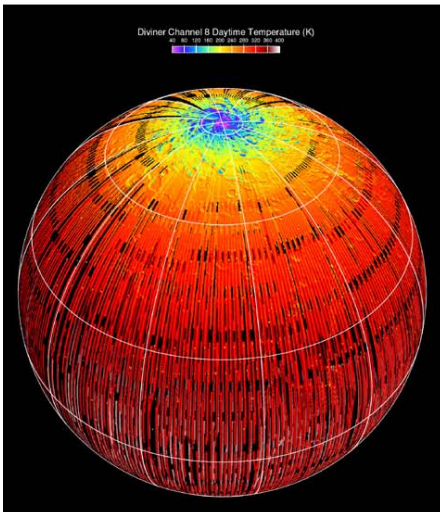


Diviner Lunar Radiometer Experiment

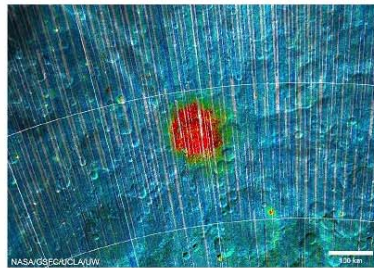
Department of Earth and Space Sciences

One of seven instruments aboard NASA's Lunar Reconnaissance Orbiter led by UCLA professor David A. Paige (principal investigator). Diviner's measurements are used to map compositional variations, derive subsurface temperatures, assess the stability of potential polar ice deposits, and infer landing hazards such as roughness and rock abundance. The science team at UCLA studies the geology and geophysics of the Moon and other planetary bodies through analysis of spacecraft data, and computational modeling. The group actively contributes to cutting edge technology, higher education, public outreach, and the exploration and advancement of our frontier in the solar system. (<http://diviner.ucla.edu>)

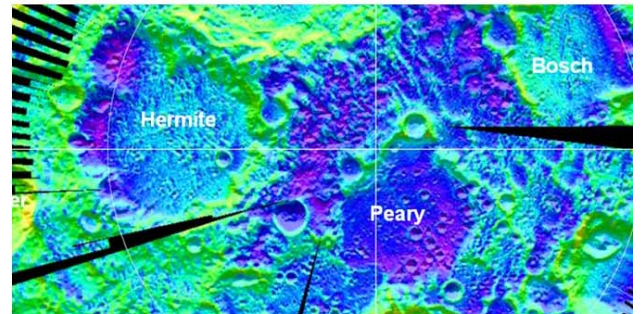
Diviner highlights from first year of successful operation:



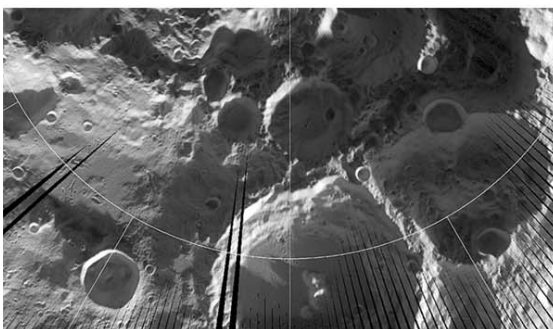
Diviner is the first instrument to create detailed, global maps of lunar surface temperature.



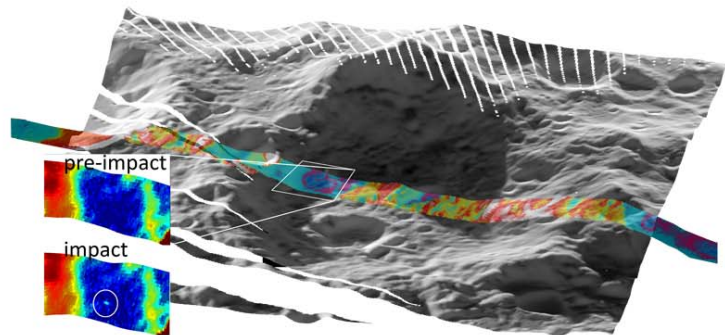
Diviner maps the rockiest parts of the Moon, like Tyco crater shown here – results could help NASA choose better landing sites for missions.



Diviner found the floor of Hermite Crater near the moon's north pole to be -415 degrees Fahrenheit making it the coldest temperature measured anywhere in the solar system. For comparison, Pluto's surface only gets down to about -300 degrees Fahrenheit.



Diviner observes temperatures inside permanently shadowed polar craters that may contain deposits of water ice.



Diviner recorded the impact of the LCROSS probe in an crater near the Moon's south pole. This shows the temperatures measured by Diviner before and during the impact. Diviner's measurements support the conclusion that this part of the Moon harbors substantial amounts of water.

- ◇ We support the President's request for FY11 and continued investments in Earth and space sciences that will: keep the US competitive in the global marketplace, lead to discovery and a better understanding of our planet and the universe, provide for stable energy resources, help us sustain and maintain the environment, help supply a skilled Earth and space science workforce.
- ◇ Universities play a vital role: conducting cutting edge research, training future scientists, and educating the public. We rely on federally funded programs to accomplish this.
- ◇ We strongly support restarting domestic production of plutonium-238, which is vital to sustaining our nation's space science and exploration program. This type of plutonium cannot be used for weapons, and is only used for long-duration space missions. Since 1993, the U.S. has relied on Russia for this critical resource, but not enough is available to maintain current and planned NASA missions. We support cost sharing between NASA and the DOE, as recommended in the administration's FY11 budget request.

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