



## **Lunar Reconnaissance Orbiter Mission Results and Future Plans**

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The Lunar Reconnaissance Orbiter (LRO) mission is poised to take advantage of recent extraordinary discoveries on the Moon to advance lunar and planetary science with new, targeted investigations that focus on geologically recent and even contemporaneous changes on the Moon. We will present recent results for the mission and describe plans for a second two-year extension of the science mission. LRO has been in orbit for nearly 5 years. In that time it has been a witness to, and participant in, a remarkable era of lunar science where a paradigm shift is taking place from the view of the Moon as a static planet to one with many active processes. As we approach the end of the first extended mission, we review here the major results from the LRO. Examples include: enabled the development of comprehensive high resolution maps and digital terrain models of the lunar surface; discoveries on the nature of hydrogen distribution, and by extension water, at the lunar poles; measured of the daytime and nighttime temperature of the lunar surface including temperature down below 30 K in permanently shadowed regions (PSRs); direct measurement of Hg, H<sub>2</sub>, and CO deposits in the Cabeus PSR; evidence for recent tectonic activity on the Moon; and high resolution maps of the illumination conditions at the poles.