

Abstract Submitted
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Mapping of the Moon in the Ultraviolet: the Lyman Alpha Mapping Project D.G. HORVATH, K.D. RETHERFORD, G.R. GLADSTONE, S.A. STERN, A.F. EGAN, P.F. MILES, J. WM. PARKER, T.K. GREATHOUSE, M.W. DAVIS, D.C. SLATER, D.E. KAUFMANN, M.H. VERSTEEG, P.D. FELDMAN, D.M. HURLEY, W.R. PRYOR, A.R. HENDRIX — The Lyman Alpha Mapping Project (LAMP) is an ultraviolet (UV) spectrograph on the Lunar Reconnaissance Orbiter (LRO) that is designed to map the lunar albedo at far-UV wavelengths. LAMP primarily measures interplanetary HI Lyman-alpha sky-glow and FUV starlight reflected from the night-side lunar surface, including permanently shadowed regions (PSRs) near the poles. Dayside observations are also obtained. Calibration data, collected monthly, will monitor instrument functionality. Brightness maps sorted by wavelength (including the Lyman-alpha wavelength of 121.6 nm) are reported for the polar regions, with a few regions of interest reported in more detail. LAMP's spectral range of 58 nm to 196 nm includes a water ice spectral feature near 160 nm, which provides a diagnostic tool for detecting water on the lunar surface that is complementary to recent discoveries using infrared and radio frequency techniques. Progress towards producing far-UV albedo maps and searching for water ice signatures will be reported. We'll discuss how LAMP data may address questions regarding how water is formed on the moon, transported through the lunar atmosphere, and deposited in the PSRs.

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