Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Lunar Orbit Anomaly and GM=tc^3 Cosmology LOUISE RIOFRIO, University of Houston Clear Lake — Studies of the Moon at Johnson Space Center have confirmed a large anomaly in lunar orbital distance, with possible applications to Relativity. Our Lunar Laser Ranging Experiment has reported the Moon's semi-major axis increasing at 3.82 ± .07 cm/yr, anomalously high. If the Moon were gaining angular momentum at this rate, it would have coincided with Earth less than 2 Gyr ago. The Mansfield sediment (Bills, Ray 2000) measures lunar recession at 2.9 ± 0.6 cm/yr. Additional observations independently measure a recession rate of 2.82 ± .08 cm/yr. LLRE differs from independent experiments by 10 sigma. A cosmology where speed of light c is related to time t by GM=tc^3 has been suggested to predict the redshifts of Type Ia supernovae, and a 4.507034% proportion of baryonic matter (Riofrio 2004). If c were changing in the amount predicted, lunar orbital distance would appear to increase by an additional 0.935 cm/yr. An anomaly in the lunar orbit may be precisely accounted for, shedding light on puzzles of "dark energy." In Planck units this may be summarised as M=R=t.

Louise Riofrio
University of Houston Clear Lake

Date submitted: 22 Nov 2010 Electronic form version 1.4