OUR KNOWLEDGE OF LOCATIONS ON THE LUNAR SURFACE AND IN ORBIT AFTER 4 MONTHS OF LRO. David E. Smith[1], Maria T. Zuber[1], Gregory A. Neumann[2], and Erwan Mazarico[2], [1]MIT, Cambridge, MA; smithde@mit.edu, [2]NASA Goddard Space flight center, Greenbelt, MD

The lunar Reconnaissance Orbiter spaceraft has been in lunar orbit for for months. The first 2 months the specacrfat was in a Commissioning orbit between 30 and 200 km altitude. In the last 2 months the spacecraft has been in its designed polar mapping orbit with average altitude of 50 km.

During this time observations have been acquired by the laser altimeter (LOLA), the Earth based laser randing system (LR), and by the S-band tracking networks that have been tracking LRO almost continuously since LRO's arrival at thee moon. All these data have enable us to better assess and understand our knowledge of LRO's orbit and the locations of features on the surface.