Abstract Submitted
for the APR20 Meeting of
The American Physical Society

Telescope Testing for the LISA Mission ADA UMINSKA, SOHAM KULKARNI, JOSEPH GLEASON, HAROLD HOLLIS, JOSE SANJUAN, PAUL FULDA, GUIDO MUELLER, University of Florida — The Laser Interferometer Space Antenna (LISA) will be the first space-based gravitational wave observatory. LISA will look for the sub-Hz gravitational waves created by massive black hole mergers, compact galactic binaries and many other expected and unexpected sources. Those waves will be measured as differential changes in the distance between spacecraft, separated by 2.5 Gm. These length changes will be sensed by laser interferometry. Each interferometer arm will contain two 30 cm, transmit/receive telescopes. The telescopes, as being a part of the interferometer, have to meet unusual requirements such as pm/$\sqrt{\text{Hz}}$ length stability and sub-ppm back scatter of the transmit laser power. Our goal is to develop the ground testing equipment and utilize it to test LISA telescope.

Ada Uminska
University of Florida

Date submitted: 09 Jan 2020 Electronic form version 1.4