Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Development of a Multi-axis Heterodyne Interferometry system for LISA PAUL FULDA, USRA/NASA GSFC, JAMES THORPE, NASA GSFC — Precision laser interferometric readout of test mass position and angle is one of the key technologies enabling a space-based gravitational wave mission such as LISA. At Goddard Space Flight Center we are developing a test-bed to demonstrate a Multi-Axis Heterodyne Interferometry (MAHI) system capable of meeting the measurement, range of motion and noise requirements for the short-arm measurement (test-mass to spacecraft) of LISA. Crucially, this system will use an optical design, photoreceivers and phase measurement systems which are also suitable for the long-arm measurement (spacecraft to spacecraft), thus reducing mission complexity. We will report on the progress of the MAHI system development, including preliminary measurements from a table-top prototype MAHI system.

Paul Fulda
USRA/NASA GSFC

Date submitted: 30 Sep 2016 Electronic form version 1.4