

Abstract Submitted
for the APR20 Meeting of
The American Physical Society

Realizing LISA: Lessons from the LISA Pathfinder and GRACE Follow-On missions JAMES THORPE, NASA Goddard Space Flight Center, LASER INTERFEROMETER SPACE ANTENNA TEAM — The early successes of ground-based gravitational wave astronomy have dramatically illustrated the power and promise of this new technique for understanding our universe. As impressive as they are, these results are only the beginning. Additional discoveries await as ground-based detectors are improved and new facilities provide access to other regions of the gravitational-wave spectrum. The ESA/NASA Laser Interferometer Space Antenna (LISA) will play an important role by making the first observations in the milliHertz band, a regime expected to have a rich set of astrophysical sources. LISAs mission concept and science case have been developed for several decades and have consistently garnered positive recommendations from review committees. More recently, LISAs technical readiness has been bolstered by two flight demonstrations: the ESA/NASA LISA Pathfinder (2015-2017) mission and the Laser Ranging Instrument on the US-German GRACE-FO mission (2018-). I will highlight the LISA-relevant results of these two missions and provide an update on progress in the development of LISA itself.

James Thorpe
NASA Goddard Space Flight Center

Date submitted: 06 Jan 2020

Electronic form version 1.4