

Abstract Submitted
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The GRACE Follow-On Laser Ranging Interferometer; A inter-spacecraft laser interferometry technology demonstrator with similarities to LISA. WILLIAM KLIPSTEIN, KIRK MCKENZIE, Jet Propulsion Laboratory, California Institute of Technology, GRACE FOLLOW-ON LASER RANGING INTERFEROMETER TEAM — GRACE Follow-On will replace the Gravity Recovery and Climate Experiment (GRACE) mission, which has been measuring Earth's gravity field since 2002. Like GRACE, GRACE Follow-On will use a microwave link as its primary instrument to measure micron-level changes in the 200km separation of a pair of satellites in a following polar orbit. GRACE Follow-On will also include a 2-way laser-link, the Laser Ranging Interferometer (LRI), as a technology demonstrator package. The LRI is an NASA/German partnership and will demonstrate inter-spacecraft laser interferometry with a goal of 10 times better precision than the microwave instrument, or about $90 \text{ nm}/\sqrt{\text{Hz}}$ between 10 and 100 mHz. The similarities between the LRI and a single arm of Laser Interferometer Space Antenna (LISA) mean many of the required technologies will be the same. This talk will give an overview of the LRI and the status of the LRI instruments, and implications for LISA.

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