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UFLIS: The University of Florida LISA Interferometry Simulator

YINAN YU, SRIDHAR REDDY GUNTAKA, University of Florida, Gainesville, Florida, RACHEL J. CRUZ, University of North Florida, Jacksonville, Florida, JAMES I. THORPE¹, SHAWN MYTRIK, D.B. TANNER, GUIDO MUELLER, University of Florida, Gainesville, Florida — The Laser Interferometer Space Antenna (LISA) is a joint NASA/ESA observatory aimed to detect gravitational waves from astrophysical sources such as like mergers between super-massive black holes and galactic binary systems. LISA will measure changes in the separation between free falling proof masses separated by 5 Gm with pm accuracy (See <http://lisa.nasa.gov> for more information on LISA.) LISA's interferometry measurement system combines several technologies to reduce and suppress the otherwise overwhelming laser frequency noise. Over the last several years our group has been setting up UFLIS, the University of Florida LISA Interferometry Simulator. UFLIS includes LISA-like laser frequency stabilization and data acquisition systems such as LISA-like phase meter and as well as electronic phase delay units which allow us to emulate the 16 s light travel times between spacecraft. We will present the latest results and the current status of the simulator as well as discuss future plans. This work is supported by NASA/OSS grant BEFS04-0019-0019.

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