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Development of a US Gravitational Wave Laser System for LISA
JORDAN CAMP, KENJI NUMATA, NASA/GSFC — A highly stable and robust laser system is a key component of the space-based LISA mission architecture. In this talk I will describe our plans to demonstrate a TRL 5 LISA laser system at Goddard Space Flight Center by 2016. The laser system includes a low-noise oscillator followed by a power amplifier. The oscillator is a low-mass, compact 10 mW External Cavity Laser, consisting of a semiconductor laser coupled to an optical cavity, built by the laser vendor Redfern Integrated Optics. The amplifier is a diode-pumped Yb fiber with 2W output, built at Goddard. I will show noise and reliability data for the full laser system, and describe our plans to reach TRL 5 by 2016.

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