

Abstract Submitted
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Low-frequency gravitational-wave science frontiers SCOTT HUGHES, Massachusetts Institute of Technology — With LIGO detecting stellar mass black holes and (soon) other stellar mass compact objects, and with LISA Pathfinder demonstrating important elements of the technology needed to fly a gravitational-wave antenna in space, the case for a low-frequency, space-based gravitational-wave detector — LISA — is stronger than ever. In this talk, I will survey the landscape of low-frequency gravitational-wave astronomy. The LISA frequency band from a few $\times 10^{-5}$ Hz to about 1 Hz is one which is rich with known sources whose measurement will enable new astronomical and physical measurements of important systems. It is also a band with great potential discovery space. In this talk, I will survey the known knowns and known unknowns in the LISA band, describing the frontiers that we can study in advance of the mission, and the frontiers that LISA measurements will unveil. I will also talk about the possible unknown unknowns where surprising discoveries may lurk.

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