Selection Decision Document
LISA Preparatory Science, solicitation NNH18ZDA001N-LPS, ROSES2018

Background

NASA is partnering with ESA on the ESA-led Laser Interferometer Space Antenna (LISA) gravitational wave observatory. LISA will detect gravitational waves in the milli-Hz band, opening a new window to study the Universe. LISA will measure gravitational radiation from a variety of astrophysical sources including the mergers of massive black holes, the capture of stellar-remnant black holes by galactic center black holes, close compact binaries in our own galaxy, and other potential sources.

NASA's contributions to LISA are still being discussed with ESA, but they are expected to include elements of the instrument payload, elements of the observatory and spacecraft, and aspects of operations, science data analysis, and interpretation. The NASA LISA Preparatory Science (LPS) Program has been created to provide support for U.S. investigators involved in analysis and interpretation of simulated LISA data over a period of up to three years. It is not intended as a vehicle for requesting funds to support hardware work, which is funded separately, or to develop mission concepts.

Response to the LPS Solicitation

A total of 30 compliant proposals were submitted to the LPS solicitation on June 14, 2018 from a variety of institutions and career-stage investigators. The peer review was held on September 24-26, 2018. Non-conflicted peers reviewed the proposals and ranked them by scientific merit and other criteria described in the solicitation.

Selection Decisions

Based on the peer review results and programmatic considerations, the following LPS proposals are selected for funding starting in FY19:

Proposal Number	Principal Investigator	Affiliation	Title
18-LPS18-0002	Mandic, Vuk	Univ. of Minnesota	Searching for the Stochastic Gravitational-Wave Background with LISA
18-LPS18-0004	Bogdanovic, Tamara	Georgia Tech Research Center	Electromagnetic and Gravitational Wave Signatures of LISA Massive Black Hole Binaries
18-LPS18-0005	Cornish, Neil	Montana State University	Developing global analysis strategies for the LISA gravitational wave observatory
18-LPS18-0009	Naoz, Smadar	Univ, of California Los Angeles	Multi-messenger Astronomy: Forecasting LISA Events with LIGO

			Detections and Electromagnetic Counterparts
18-LPS18-0015	Shoemaker, Deirdre	Georgia Tech Research Center	Black Hole Mergers and Gravitational Radiation in the LISA Era
18-LPS18-0021	Larson, Shane	Northwestern Univ.	Tools for Modeling Selection Biases and for Advanced Astrophysical Interpretation of LISA Observations
18-LPS18-0022	Wass, Peter	Univ. of Florida	Simulating the LISA instrument for maximum science return: high fidelity modeling of precision freefall and optical metrology
18-LPS18-0027	Cutler, Curt	Jet Propulsion Laboratory	Next generation analysis for LISA data analysis
18-LPS18-0030	Prince, Thomas	Caltech	Detection of LISA Verification Binaries and Galactic Ultra-Compact Binaries using the Zwicky Transient Facility

The remaining 22 proposals are declined.

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11/16/18
Date