

Statement of Work (SOW)
TIDES Task 71/3
SYSTEMS AND INTEGRATION ENGINEERING SUPPORT FOR GUSTO

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[This purpose of this mod is to descope the LOE and to close-out the task as of 7/8/2019.](#)

1.0 TASK REQUIREMENTS

This task initiates systems and integration engineering oversight support for the Gal/Xgal Ultra-Long Duration Balloon-borne Spectroscopic THz Observatory (GUSTO) mission. GUSTO is an Explorers mission that is currently in Phase B and will begin Phase C January 2019.

1.1 Summary and Background

The Explorers Program provides frequent flight opportunities for world-class scientific investigations from space utilizing innovative, streamlined and efficient management approaches within the heliophysics and astrophysics science areas. The program seeks to enhance public awareness of, and appreciation for, space science and to incorporate educational and public outreach activities as integral parts of space science investigations.

GUSTO is an Explorers Mission that will dramatically improve our understanding of the Universe by probing the topology and ecology of interstellar gas throughout the Milky Way and Large Magellanic Cloud (LMC). GUSTO is a cryogenic balloon-borne, 0.9 m Cassegrain telescope designed to stay aloft for 100 days or more. GUSTO is an Explorer Mission of Opportunity led by the University of Arizona in partnership with the Johns Hopkins University Applied Physics Laboratory. The [REDACTED] Investigator, [REDACTED], leads a science team comprised of world experts in THz astronomy and related technologies, including quasi-optical systems, HEB mixers, local oscillators, and quantum cascade lasers.

1.2 Period of Performance

Award through September 2019.

1.3 Technical Requirements

The contractor shall provide the Explorers Program with senior systems/integration engineering support for the GUSTO mission. The support will cover gondola and payload systems. The contractor shall provide engineering expertise, analyses, information collection, technical support, and coordination with mission personnel, science teams, and spacecraft and instrument providers.

Specifically, the contractor shall provide engineering support to include, but not limited to, the following:

- Review payload and gondola designs to ensure compliance with NASA and mission requirements.
- Provide technical consultation for systems/integration issues and propose corrective actions.
- Assess project risks, identify appropriate additional risks, providing feedback to the mission team and Explorers.
- Attend and participate in mission, element and component reviews, providing an assessment and feedback to the mission team and explorers.
- Review Integration and Test (I&T) and environmental test plans to ensure requirements verification is adequately planned.
- Participate in weekly, monthly and regular technical interchange meetings, providing feedback to the mission team and Explorers.

2.0 Support Requirements:

Familiarity with Explorers Program mission formulation and implementation requirements for Class C and D missions.

3.0 Travel

Domestic travel will be required. During the period of performance, the contractor shall plan to the following trips at a minimum.

Activity	Date	Company	Location	Days
GUSTO Payload PDR	Sept 2018	JHU APL	Columbia, MD	2
GUSTO PDR	Nov 2018	JHU APL	Columbia, MD	4
GUSTO CDR	July 2019	JHU APL	Columbia, MD	4
Technical Interface Meetings	Monthly	UA	Tuscon, AZ	2/each

4.0 Deliverables

A monthly written report detailing previous month accomplishments, significant activities, issues and concerns as well as activities planned for the next reporting period.