

NASA SBIR/STTR Technologies

Proposal No. S4.07-9076 - Pulsed Electrogasdynamic Thruster for Attitude Control and Orbital Maneuvering

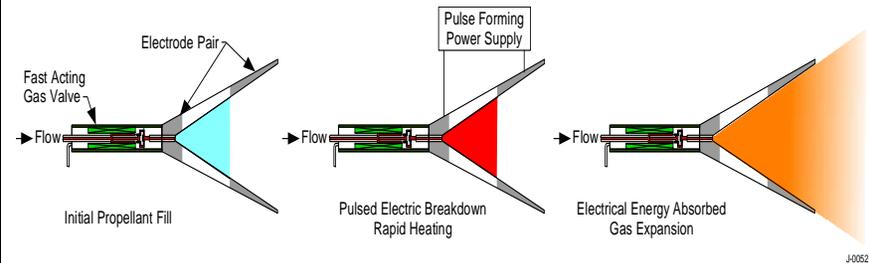


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Identification and Significance of Innovation

A new pulsed electric thruster, the “Pulsed ElectroGasdynamic (PEG) thruster,” has been demonstrated. In this thruster the propellant gas is accelerated gasdynamically by an innovative use of pulsed electric power. The PEG thruster can generate thrust from 0.1 to 100 mN with the specific impulse (I_{sp}) > 1000 sec with electric efficiency > 50%.

Expected TRL Range at the end of Contract (1-9): 5-6



Technical Objectives and Work Plan

Our technical objectives are:

1. Characterize performance of the engineering model of the PEG thruster; and
2. Demonstrate performance and operability using the integrated proto-flight thruster.

The specific tasks to be conducted in Phase II program are:

1. Prepare the engineering development unit (EDU);
2. Test the EDU thruster under simulated space environment;
3. Integrate the EDU thruster and components to form a proto-flight thruster for performance demonstration.

NASA and Non-NASA Applications

- Satellite Mobility
- Spacecraft Orbit Transfer
- Station Keeping
- Attitude Control

Firm Contacts

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NON-PROPRIETARY DATA