

Please respond to the following:

Micro Thruster State of the Art:

1. What is the state of the art with respect to thrust density (N/Kg) when including the Power Processing Unit (PPU) and propellant storage requirements?
2. What is the state of the art with respect to thrust to power (N/KW)?
3. What is the state of the art with respect to propellant throughput or thruster longevity?
4. Is it reasonable to assume that scaling micro-thruster technologies upward would improve the metrics referenced in 1-3?
5. What are the challenges associated with power processing and propellant storage/management for micro-thrusters?

Micro-Thruster Utility:

1. What are the road blocks to the adoption of micro-thrusters on small satellites?
2. Have micro-thruster technologies evolved to the point where the replacement of reaction wheel assemblies can reasonably be envisioned?
3. Are there technological limitations to the operation of micro-thrusters in parallel or serial systems?
4. Does operation of micro-thrusters in series improve or impair the basic metrics discussed above.

Cost Drivers:

1. What requirements/technical challenges that are known to be major cost drivers in:
 - a) Thruster assembly
 - b) PPU
 - c) Propellant management and storage