

Project Bi- Weekly Progress

Date:9-17-13

Project Title: Solar Powered Arc Jet Thruster

**Students Names: Chris Brolin, Cory Gainus, Gerard Melanson, Tara Newton
Griffin Valentich, Shane Warner**

Mentors/ Coordinator/ Sponsor: Dr. Guo, Kurt Polzin, NASA

1. Project Title: Solar Powered Arc Jet Thruster

2. Project Objectives/tasks Breakdown:

Design, build, and test a direct drive arc jet thruster for purposes of providing propulsion under vacuum.

Design and execute a test plan to systematically quantify the range of operating conditions over which gas ionization can be achieved.

Perform tests to see if a continuous discharge at these power/current levels can be sustained, and quantify if possible.

3. What was accomplished the last two weeks on individual tasks- representative supporting data/ documents

During the last two weeks we have met with Dr. Shih to obtain more information concerning our project. We have contacted Dr. Guo and will be meeting with him on Thursday 9/19 in the Mag Lab. We have emailed Kurt Polzin but have yet to hear back from him. He will hopefully be able to provide us more technical information concerning the project.

Research was performed by each team member on a different aspect of Magnetoplasmadynamic thrusters.

Shane started the website – eng.fsu.edu/~warnesh/website/home

Includes meeting minutes, design files, images, deliverables, and resources links

Previous reports were read and studied to determine what previous failures and successes the intern at NASA had with this project and what can be changed to improve the performance.

It was determine what will be provided from NASA, although the time frame of receiving the solar panels is not known.

4. Summary of problems encountered and actions taken (and by whom)

Minor problems encountered with scheduling conflicts but these were resolved easily.

Problem present with no feedback from our sponsor Kurt yet, Problem will be resolved by sending him another email in the near future. If this does not work, we will call his office phone for direct contact with him.

5. Attached Gantt chart modifications and analysis if project is behind schedule and summarize actions planned to overcome the problems)

6. Work planned for the next period and the person(s) responsible:

layout project timeline, and create Gantt chart – Griffin
research what has been done with MPDs in the past - all
ideation and invention of various potential designs – all

contact Kurt and ask technical questions about propellant usage and other technical knowledge – all (conference call)

7. Open comments/suggestions (Please feel free to include your private comments):

Coordinator/ Instructor assessment report and corrective action