Project Bi- Weekly Progress
Date:10-1-13

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, Dr. Andrei, Dr. Kwan / 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
Gantt Chart created and finalized

Contact made with advisors and sponsors – Dr. Guo is going to be a very big help on this project, Kurt mentioned we can get in contact with him whenever we have questions or concerns

Code of Conduct rewritten and signed

Needs Assessment completed

Project concept further understood through research and technical papers

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

Creating Gantt chart was somewhat difficult to plan and layout. Problem creating most efficient project path. Team collaboration helped to clear up timeline and create a solid project outline.

5. Attached Gantt chart modifications and analysis if project is behind schedule and summarize actions planned to overcome the problems)
Project is not behind schedule.

6. Work planned for the next period and the person(s) responsible:
Work will begin on the project plan and product specifications report due on October 11th. - ALL
Team will continually work to read background information concerning arc jet thrusters. - ALL
Design ideation and invention will begin for both sub teams concerning circuit design as well as thruster design- ME and EE teams
It is desired to have another meeting with Dr. Guo and other advisors to ask more technical questions. - ALL

Contact Kurt to see what magnitude of thrust/voltage is expected for product specs -ALL

Investigation of how to pressurize a gas within a vacuum to satisfy Paschen's curve conditions. – Cory
Get an idea of the scale of model necessary to be produced – Tara
Research materials typically used for MPDs and costs associated – Chris
Research existing designs and how to improve - Griffin
Research necessary circuit components for arc - Shane
Research gas valve flow control – Jerry

7. Open comments/suggestions (Please feel free to include your private comments):
Course is becoming more organized, Hopefully we will see once cohesive assignments sheet and be able to clear up the confusion between what Dr. Frank is telling us and what Dr. Amin is telling us.

Coordinator/ Instructor assessment report and corrective action