

## Project Bi- Weekly Progress

Date:2-25-14

**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. Kwan, Dr. Andrei, 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**

Fixed Vacuum Pump

Acquired baseplate for vacuum chamber

Met with Sponsor – Dr. Polzin

Got Voltage Spike

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

Broken Vacuum Pump – Gerry had an extra switch that was able to be installed easily  
Shane and Gerrard talked to Dr. Weatherspoon and acquired baseplate

**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:**

Reinforce and clean baseplate

Order new fittings

Received new hose from Dr. Polzin

Machine test stand

Incorporate load cell

Machine baseplate

Gather all materials into one location

Test Vacuum Chamber

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

<b>Coordinator/ Instructor assessment report and corrective action</b>