Liquid Propulsion

Week 4 Progress report

Hardware subsystem

1. Remodelling the spacer to match improvement corrections in the interest of cooling the nozzle.Then fabrication.
2. Design of the hydraulic system and components.Problem definition, Ideation, Drawings, CAD designs.and obtaining parts.
3. Fittings and Components prior to assembly of the engine. Bolts, Nuts, Gaskets, O-rings, Nipples e.t.c
4. Modifying the test stand(For accumulator and hydraulic assembly) By adding a support structure for placing the components.

Electrical and Electronics subsystem.

1. Testing the heating coil to get the ceiling temperature. This is to act as the substitute to the heat produced during actual combustion..
2. Testing of Hydraulic actuators and sensors. To ensure they are within required specifications for the required tests. In particular, leakages.
3. Testing Power supply requirements and power source requirements. Driving the choice of control methods to use in the test.
4. Modifying the test stand for neatly supporting the electrical circuits required to control the hydraulic system. I.e stepper motors, valves e.t.c.

Software and Control

1. Determining the best method to use to control the hydraulic system. i.e PID for flow meters and fow valves. Based on the type of input provided by the user
2. Testing of Hydraulic actuators and sensors. To ensure they are functional as required. I.e flow meters, valves.
3. Testing Power supply requirements and power source requirements. Driving the choice of control methods to use in the test and how to modify it to meet the requirements of the system we aim to control.
4. Modifying the test stand support for Easier troubleshooting and replacement of components when needed.

Thank You for your attention!