

Solar Sailors

Meeting Minutes from 09/16/2020

Members in attendance:

Adriana Oliveira (Team Member)

Asad Muhammad (Sponsor)

Brady Jerome (Team Member)

Steve Szablya (Sponsor)

Lukas Vermeulen (Team Member)

Brian Johnson (Technical Advisor)

Nickolas Borek (Team Member)

Feng Li (Lead Instructor)

- Meeting started at 6:05 PM.
- Recap of 09/14/2020 meeting.
- Brady's report.
 - Thermopile's are an inexpensive solution for our problem.
 - Pair them with a semiconductor.
- Lukas's report.
 - Use Op Amp for linear amplification.
 - Equal step sizes.
 - Research Op Amp requirements to determine if we need an Arduino.
 - Arduino might be overkill for the project's needs.
 - Budget comes from kW4H
 - Ideally, less than \$20 per unit when components are purchased in bulk.
 - Try to keep our costs under \$275.
 - Do not rule out a device solely because it costs a little more.
- Adriana's report.
 - Thermopile's produce a voltage that is directly proportional to solar radiation.
 - Thermopiles in series create a "pile".
 - Communication between devices.
 - Need to send a 0-5 V signal.
 - Does not need to respond quickly.
 - Do not worry about clouds.
- Nick's report.
 - Use ABS 3D printing for circuitry housing.
- Questions for sponsors and instructors.
 - Q: Does the prototype need to be under \$20?
A: No.
 - Q: Where will the pyranometer be mounted to the panels?
A: Mounts should be on the side of the pyranometer.

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- Q: What is the best way to do mount the domes to the prototype?
A: Not sure, requires research. Epoxy maybe?

- Do research on microcontroller specs to determine if we should use one.
 - Talk to Dr. Frenzel?

- Meeting ended at 7:03 PM.