

The Solar Sailors
Meeting Minutes for 3/26

- Updated Dr. Li and Dr. Johnson on our progress with the project.
- Discussed our meeting with Dr. Ay earlier that day.
 - We are going to meet with Dr. Ay next Wednesday, 3/31, at 10:30AM to run some tests on our sensor
 - Test 1: Find $I_{CE} - IntensityCurve$ for $V_{CE} = 4.95V$
 - Test 2: Find $I_{CE} - IntensityCurve$ for $V_{CE} = 1.65V$
 - From these tests, we can determine the resistor value needed in series with the sensor.
 - Discussed linear mapping of the values to get an output proportion to the input. We need to do this because $V_{CE} = \sim 1.7 < x < \sim 5$. As V_{CE} changes, the $I_{CE} - IntensityCurves$ will change as well.
 - Brady will write up procedures for both tests.
- We got the U of I pyranometer from Dr. Johnson.
 - This will help us calibrate our prototype.
 - Need to figure out how it works by watching the video on the disk that came with the pyranometer.
- We talked about changing the power source of our prototype. Originally, the device would be powered through the USB C cable. The device is designed to be deployed at up to 100ft and a 100ft USB C cable costs upwards of \$60 which makes our product obsolete. We changed the design so that the QT py would be powered from the 5V pin. We will use the 3.3V pin and an amplifier circuit to boost this voltage up to $\sim 5V$ and power the sensor with it.
 - The other pyranometers we have seen like the chinese model and the U of I's model use a 3-wire cable that has power, ground, and data cables. Since we switched our design, we will also be using a 3-wire cable which helps us compare our pyranometer to pre existing models more easily.