THIS README IS INTENDED FOR USE WITH DATA “PeakAmplitudeTestNoSpin”

The purpose of these tests are similar to tests I did before, except I will not be turning the device for these tests. Instead. I will just take 4 readings with a 2 second interval in between the readings. I will run this test 4 times for each type of bean which will require me to remove and replace the beans for a different orientation.

Rather than photos of the values, I will be using the program written by Chris to take the peak amplitude from the exptool IQ Reading.

The results will be placed in a spreadsheet in this drive

1. Input the testing amount of beans (50 beans)
2. Let the program take 4 readings of the beans
3. Repeat step 2 - 4 with the same set of beans 3 more times ensuring they are mixed up in between tests.

**NOTES:**

1. **I have modified the program to not take the empty tube first. I tested this against the acconeer tool and found that this did not change the results**
2. **The “sensor\_config.swee\_per\_frame” can drastically change the amplitudes. For testing I am keeping it at 1 on the python program**
3. **The “Flat”, “Dome” and “Fresnel” are just referring to the lens that I used for that test.**
4. **For the average, I am taking each tests average, then taking that number and averaging it against other test averages (Average of an average).**
5. **From here on out, I may stick to using the flat lens since most consistent data. Will need to talk with the group about this decision**

Analyzing the Data (Flat Lens)

1. Our highest moisture content “Sweet Marias India Monsoon Malabar” which was 12.2% was expected to have the lowest average peak amplitude which is true. I am nervous that this might also be because of the sheer size of these beans. These are by far the largest beans that we have. When compared to a much smaller bean like the “Sweet Marias Yemem Mokha Peaberry” which was 10.4% you would not expect to see that much of a difference because of the smaller differences in moisture content. Yet the averages are drastically different and even higher than our low moisture beans.
2. Our lower end moisture content beans “Guatemala Antigua Hunapu” and “Guatemala San Diego Buena” both 7.8 and 7.9% respectively, ended up having very similar averages to our “Yemen Mokha Sanani” which was 11.4%. Because of this 3.6% difference, we expected a clear difference in the amplitude but are instead getting weird results.
3. Even testing a couple of beans that I had in a test prior, Sweet Maria's (Rulindo Tumba) 9.7% and Sweet Marias (Ethiopiques) 8.8%, the more recent tests found drastic differences in the 9.7% moisture content, but had comparable results with the 8.8%. Because of the consistency with the 8.8%, this may be our middle of the road choice for beans.