1 Todo

1.1 Background

1. Focus on the changing leakage current over DC bias.
2. What are the main failure modes?
3. What are the current specifications of the parts in use now?
4. What research is being done to develop better capacitors for this use case?
5. How do they currently evaluate the capacitors?
6. How would they benefit from my research?
7. What is the state of the art in capacitance measurement?
   (a) Impedance analyzers
   (b) Capacitance bridges
   (c) Hi pot testers
   (d) What are the good and bad points of each of these technologies?
   (e) Why do they not solve the problem that I stated?
   (f) Why does this technology not currently exist?
8. What work has been done similar to this in the past?
9. What are the important characteristics of capacitors?
10. Is there any evidence that a capacitor's properties will change over DC bias?

1.2 Parameters

- Add angle marker to loss tangent image.
- How does the Murata model compare against the expected model of a Titanium capacitor?

1.3 Regression

- Include some discussion on J. Miller's modeling techniques for supercapacitors.
- What model would be useful for modeling titanium electrolytic capacitors.
- Include the final parameter results for the 6-term model and say if they are reasonable.

1.4 Schematic Explanation

- Improve the schematic flow chart.
- Reference the circuit capabilities section in the intro.
- Is there a formal meter that measures discharge curves?
- Update discussion on leakage measurements.
- Talk about why this phase measurement technique was chosen over others and their comparable accuracy.
- Expand explanation on the current booster.

1.5 defense

- work work

References

[1] Reem Malik Moshe Gerstenhaber. More value from your absolute value circuit. *Back Burner*, 44(04), April 2010.