SkeeterSat Calibration Report Guidelines

LaACES Student Ballooning Course

Write a report that details the procedure you used to calibrate the SkeeterSat. The report should include a description of the SkeeterSat, the materials and procedure used, the results of the calibration, and an analysis of the results. Schematics, graphs, and photographs should be included.

The report should be in a standard, professional sans serif font (Calibri, Arial, Georgia, etc) in size 11 or 12 pt. font with 1-inch margins.

Note the focus of this report is the calibration of the actual SkeeterSat, details from construction may be included as background but that is not the intended focus of the report.

Report Contents

Introduction

What does the SkeeterSat do?

How does the circuit operate?

What are its major components and functions?

Objectives

What is the scientific purpose of the calibrations?

What can you do with the SkeeterSat once you have completed the calibration?

Materials

What materials, tools and equipment did you use to perform the calibration.

Calibration Procedure

Describe the procedure used to calibrate the SkeeterSat.

How did you record temperature and sound data?

How did you determine the frequency of the beeps?

Calibration Results

What was the data you recorded?

What analysis and calculations did you perform on the data? Be sure to include equations you used to perform calculations.

Be sure to include some discussion of the expected behavior, i.e., what frequency should have been measured at temperatures based on what you read in data sheets, theory of operation, etc.

A discussion of error analysis may be included, but it is not required.

Include tables and graphs of the results as necessary.

Conclusion

Briefly describe the results and conclusions made from the analysis.

Was the calibration successful(did you meet your objectives)?

What was the result of the calibration (were you able to determine an equation for predicting converting frequency to temperature)?

How did the actual frequency measurements compare with values predicted from the datasheet calculation?