CALIFORNIA SCIENCE & ENGINEERING FAIR
2019 PROJECT SUMMARY

Name(s)

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Project Number

J0110

Project Title

How Proximity to a Surface Affects the Lift of an Aircraft

Abstract

Objectives

The objective of this project is to determine the effects of proximity to a surface on aircraft wings.

Methods

Wind tunnel, variable-height wing, force sensor. Tested upwards force on wing while changing the height of this wing.

Results

The lift of the wing was independent of height of the wing.

Conclusions

Through repeated trials, the lift of the wing was determined to be independent of the height of the wing. There was some deviation in the lift from this trend, which leads me to believe that friction with the edges of the wind tunnel slowed down the air moving under the wing.

Summary Statement

As measured by a wind tunnel, there is no difference in lift for a varying distance from a surface.

Help Received

I based the design of my wind tunnel off of one that I found on the internet. Otherwise I build and performed the experiment myself.