CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY

Name(s)
Carlos Pacheco; Jose Sandoval

Project Number
S0924

Project Title
Solar Angles

Abstract

Objectives/Goals
This project involves using different angels to test the power generated by the solar panel. The goal is to find the most energy producing angle on the solar panel and to find how different the power absorbed at that angle compares to the rest. This has been done by using a small solar panel and setting it at different angles in order to test the power created by the solar panel with an oscilloscope. Upon examination of our data it becomes clear that angles have an impact on solar energy absorbed and power produced. Through our data it is clear to see how angles have an impact on energy produced.

Methods/Materials
The use of solar panels in our project was integral as we hoped to find the best angle to use in order to produce the most amount of power from our solar panel. We conducted our experiments thoroughly and discovered the best angle by using a protractor and an oscilloscope.

Results
Our data showed us how the suns rays have a very different and shifting effect on the angle a solar panel is set at. With this data it is very easy to conclude that the angle a solar panel is set at has a great effect on the power output of the panel. Our data shows how as the angle decreases the solar panel gains more power peaking at 100º but after the peak at 100º the angles slowly decrease again. Although at 40º we experienced a flux, and we believe this is due to the reflection of the suns rays on the concrete where we were conducting our experiment.

Conclusions/Discussion
Over the course of our experiment we collected many pieces of data. We took our data and concluded that the angles of a solar panel have a great effect on the power output. We discovered this conclusion through our testing using an oscilloscope and a small motor. This conclusion proves our hypothesis and can allow us to form a new hypothesis testing the strength of solar energy produced per solar panel in order to form a solar field with the most efficient power output.

Summary Statement
Our project is about the impact of angles on solar power.

Help Received