CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY

Name(s)

Cody Allen; Tyler Ferris

Project Number

35433

Project Title

Data Transmission Using Visible Light

Abstract

Objectives/Goals

The objective of this project was to see if laser communication is possible. We believe that laser communication is possible.

Methods/Materials

By incorporating hardware and software, we built a device that transmit data with a laser. Binary signals are sent from computer A to the audio output transformer through the line out of the computer, the signal is then sent to the laser where it is shot out and received by the solar cell. The solar cell sends what it captured to computer B where the signals are matched to a library and then decoded.

Results

We can send up to eighteen binary signals at 100% accuracy. Each letter has six binary signals that goes with it so eighteen binary signals is really three letters. After eighteen signals the code starts transmitting faster than it can receive so anything above eighteen signals doesn#t get recorded at 100% accuracy.

Conclusions/Discussion

Our original hypothesis, is laser communication possible, was correct, we can send up to three different letters at 100% accuracy.

Summary Statement

This project is about using visible light to transmit data.

Help Received

Cody#s mom bought equipment used for this project. Tyler#s parents gave advice on how to make this project better.