CALIFORNIA STATE SCIENCE FAIR
2004 PROJECT SUMMARY

Name(s)
Indigo Prizm

Project Number
J1217

Project Title
What Is the Estimated Digital Visual Bandwidth of a Human Being?

Abstract

Objectives/Goals
My goal was to find a estimated digital visual bandwidth for a person. My investigative question was: what is the estimated digital visual bandwidth of a human being? Having had no experience in this kind of science prior to my project, I did not have a hypothesis for the total bandwidth. I did however, have a hypothesis for the second part of my field of vision test. I predicted that the shape for someone's field of vision would be the shape of half of a penut shell.

Methods/Materials
For my project, I used the folloing items: a laptop computer, twenty-two pieces of wood, and about forty screws. First I found out the field of vision. Then I wrote down that number. Next I found out the color depth, and wrote down that number too. After that I found out the video frame rate, and multiplied all my numbers together.

Results
My result for the field of vision test contradicted, because the shape for the field of vision was actually an ellipsoid, not a peanut.

Conclusions/Discussion
This helps because you can make a completely blind person see, if you directley stimulate the visual cortex by programming a machine to take in a certain amount of bits/second.

Summary Statement
My project is about finding what the estimated digital visual band width of the average person is, so that someone could build a machine to make a completely blind person see.

Help Received
My father bought the supplies, helped me find the area of an ellipsoid, and helped with my general display at the science fair at school.