CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY

Name(s)
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Project Number
J0998

Project Title
Spark. Ling. Water

Abstract

Objectives/Goals
The objective is to test if water flow affects the electricity produced measured as number of sparks per three minutes using the Kelvin's Electrostatic Battery. I predict that the larger water flow will produce more sparks.

Methods/Materials
A Kelvin's Electrostatic Battery model was built. A straight valve was used to control the water flow. Two water flows, A and B, were chosen, and the electricity produced by each flow was tested by the number of sparks per 3 min. occurring between two brass balls. Each flow was tested three times to find the final results.

Results
Flow B (844 mL/Min), being 13.5% less than flow A (730 mL/Min) generated about 36% more sparks than Flow A (Flow A:14 sparks, Flow B: 19 sparks).

Conclusions/Discussion
I hypothesized that the larger water flow would produce more sparks based on the idea that the more water, the more charge. My results proved my hypothesis false, as the lower water flow produced more sparks. This experiment shows that Kelvin's Electrostatic Battery could be an efficient way to produce electricity which does not require the amount of water usually needed by water turbines. This benefits areas lacking a large supply of water, such as California State going through a period of drought.

Summary Statement
The purpose of this project is to test if water flow affects the electricity produced measured as number of sparks per three minutes using the Kelvin's Electrostatic Battery.

Help Received
My dad helped me with the engineering of this project.