



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Sarah R. Sumner	Project Number J0927
Project Title Amounts of Electromagnetic Pollution (Transients and Harmonics) Emitted by Light Bulbs	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My goal was to determine which light bulb emitted the the most dirty electricity, so I could possibly help people who might suffer from the effects of it.</p> <p>Methods/Materials Procedure</p> <ol style="list-style-type: none">1. Get the Stetzerizer EMF meter and plug it into the outlet2. Measure the amount of electromagnetic pollution or transients and harmonics emitted without the lamp plugged in3. Put the Candescent-Fluorescent light bulb in the lamp4. Turn on the lamp with the first light bulb5. Measure it with the Stetzer EMF meter to determine how much electromagnetic pollution is emitted from this light bulb6. Record the information in my data book7. Repeat 10 times for each light bulb <p>Results The following are averages of each light bulb tested with the EMF meter. LED 60 watt - 138 GS units LED 100 watt - 323 GS units Halogen 60 watt - 66.1 GS units Halogen 100 watt - 66.4 GS units CFL 60 watt - 407.3 GS units CFL 100 watt - 233.9 GS units</p> <p>Conclusions/Discussion Conclusion</p> <p>After completing my investigation on amounts of dirty electricity emitted from light bulbs, I found my hypothesis was correct. My hypothesis stated that Candescent-Fluorescent light bulbs would emit the most electromagnetic pollution. The light bulb that emitted the least amount of dirty electricity was the Halogen 60watt & 100watt. Candescent-Fluorescent 60watt & 100watt emitted the most dirty electricity.</p>	
Summary Statement Some types of light bulbs can produce harmful amounts of electromagnetic pollution (transients and harmonics).	
Help Received My mother helped with the board set up and purchased the Stetzerizer Microsurge EMF meter.	