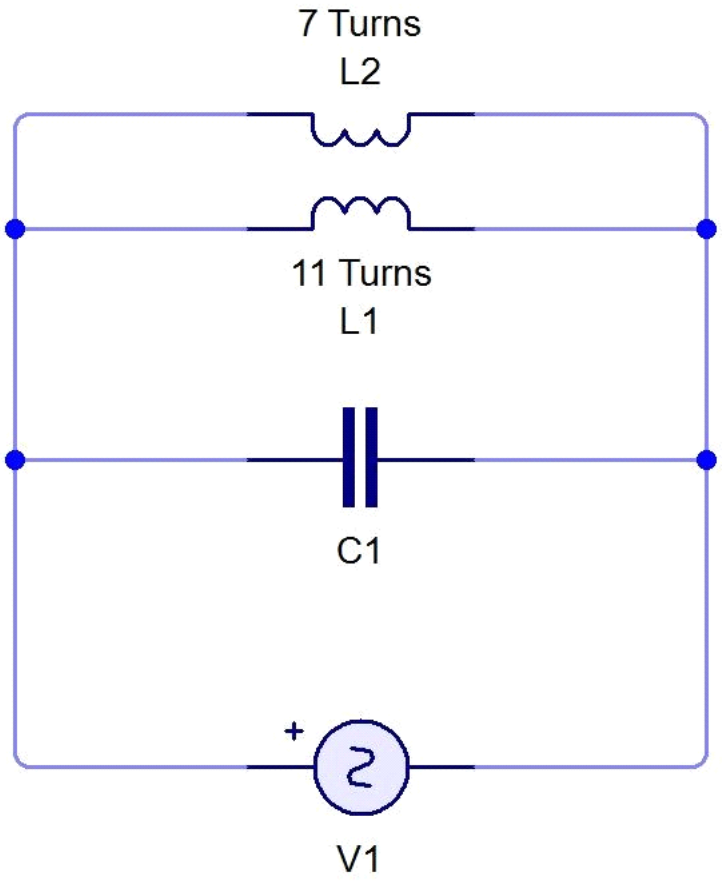
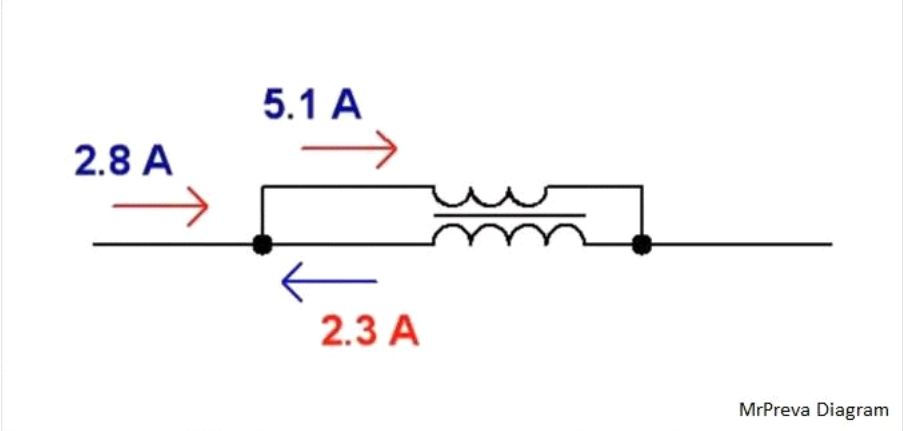
The MrPreva Experiment

Although a relatively simple appearing circuit; this combination of components may have some hidden effects that warrant further analysis and study according to several investigators.



Basic MrPreva schematic where L1 (11 turns) and L2 (7 turns) are wound on the same torroid core

It is said that: Current to the right is: I = da+ / dt + da- / dt.



We see, 2.8 Amps (da+ / dt) + 2.3 Amps (da- / dt) = the shown: 5.1 Amps as Floyd Sweet told us.

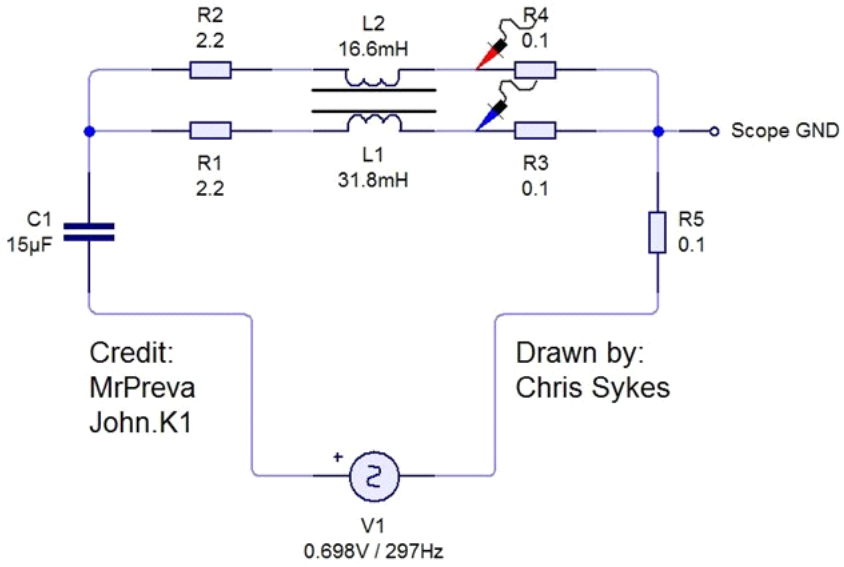
We see a Negative Power Factor, where the Voltage (V) Current (I) are out of phase by a Degree, which results in a Negative Power Factor!

NOTES:

1. **it is unclear at this point whether the V1 generator is Sine Wave or Pulsed.**
2. **However one video shows a pulsed source at f = 23.5 kHz with 37.5% duty cycle.**
3. **There are a lot of posts that show an effect of one bulb brighter than the other.**
4. **However, there are also a lot of posts where the "effect" is not seen.**
5. **Several "claims" of up to 130% and 140% efficiency are also reported.**

Therefore; it might be worth while to investigate the "MrPreva" circuit further in moe detail. This circuit does NOT appear to fall into either of the two n_2 basic catagories (non full-cycle or asynchronous) so does the "MrPreva" circuit present yet another excess energy anomoly or is something "hidden" within it's configuration? *Maybe we can find out!*

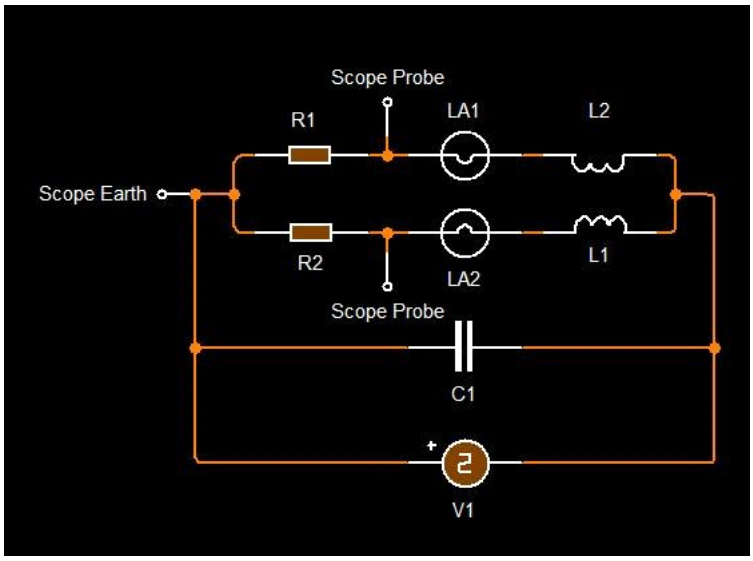
Chris Sykes version:



Coil and Circuit data:

Input:	**L1: {L1 Turns: 175}**	**L2: {L2 Turns: 88}**
Period: 3.320	Period: 3.320	Period: 3.320
Offset: 0.160	Offset: 0.28	Offset: 1.72
Degrees: 17.3	Degrees: 30.4	Degrees: 186.5
Active: 2.203788426168	Active: 8.0004243646859	Active: -6.1948770793364
Apparent: 2.30821	Apparent: 9.275707	Apparent: 6.234956
Reactive: 0.686403717929	Reactive: 4.6938212608966	Reactive: -0.7058169710592
Power Factor: 0.9547608	Power Factor: 0.8625137	Power Factor: -0.9935719

Another version of the schematic:



NOTE: C1 and V1 are now in parallel with the series combination of | R1 - LA1 - L2 | and in parallel with the series combination of| R2 - LA2 - L1 |.

Primary Tasks of the "MrPreva" Investigation:

A. Circuit Schematic simulation of the initial diagram (two windings on a torroid core with a parallel capacitor. As shown in the original "MrPreva" video diagram. Ideal initially, then add losses, etc..

Challenge: find a Spice model of a light bulb. However, set up the initial simulation using resistors as loads.

B. Electromagnetics analysis of the torroid core with the two windings. Extract the Spice model and insert into the circuit simulation. Re-simulate.

C. Bench test the exact simulation model.

D. Correlate the model analysis with the bench device results.

E. Investigate any anomolies, if they become apparent.

SPICE MODELS and Misc

Paper - "A SPICE compatible Behavioral Electrical Model of a Heated Tungsten Filament"
https://wwwee.ee.bgu.ac.il/~pemic/publications/conf004.pdf

Lamp Spice model: [see "my_model_files directory]
http://ltwiki.org/index.php?title=Adventures_with_Analog

Related: "Use Light Bulbs as Current Limiters?" [also see comments]

https://www.eetimes.com/author.asp?section_id=36&doc_id=1331961#

Toroidal Coil on OrCad Pspice
https://electronics.stackexchange.com/questions/237223/toroidal-coil-on-orcad-pspice

Using Coilcraft's Advanced Models in LTSpice
https://www.coilcraft.com/modelsltpice.cfm

Transformer Model in LTSpice – Step by Step Guide
http://electronicsbeliever.com/transformer-model-in-ltspice-step-step-guide/

LTSpice Circuit Simulation Tutorials for Beginners
http://electronicsbeliever.com/ltspice-circuit-simulation-tutorials-for-beginners/

SPICE modeling of Magnetic Core from Datasheet
https://www.youspice.com/spice-modeling-of-magnetic-core-from-datasheet/

WURTH ELEKTRONIK Magnetic components
- Spice libraries (many {huge selection by part #} - LTspice, Pspice, etc...)
https://www.we-online.com/web/en/electronic_components/produkte_pb/bauteilebibliotheken/ltspice/ltspice.php?blank=
- General components
https://www.we-online.com/web/en/index.php/show/media/06_passive_components_-_custom_magnetics/toolbox/Finished_Goods_Catalog_2019_E-FILE.pdf

Amidon toroids
http://www.amidoncorp.com/iron-powder-toroids/