

Self-generating Richard VIALLE: Part 1/2

By Pascal di Scala - version 02/10/2012 at 8:25 am

See the series of 7 videos starting here: <http://www.youtube.com/watch?v=Fqt3gC0qvRM>

Video # 5 and # 6 in view regarding the self-generating

1

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self-perpetuating: Linear bar solid copper

Structural design:

The first self-generating Richard VIALLE consisted of two identical half-bars of solid copper 24cm long and 3cm x 1cm rectangular section, separated by an electrical tape (thickness <0.5 mm) bonded to one of ends of the half-bars so that when in contact with each other, there is no electrical conductivity. These half bars were taken of this size because it is an element of recovery and Richard VIALLE did with what he had found (he was looking for a solid material and there was nothing else available easily).

The whole was wound by two parallel son Phone 0.5 mm diameter copper each with 0.5 mm about diameter cladding (red and white).

In fact, for convenience, the son of the phone were wound on a plastic rectangular for the sheath to the half-bars that had crept into the sheath.

Richard VIALLE could drag the half-bars in the sheath more or less and make out much half a bar at leisure.

Half Bar

24cm

Half Bar

24cm

Sheath

plastic

Coiled wire

Insulation

plastic Page 2

The purpose of the parallel winding is possible to reduce slightly the effect of skin.

Son resistance increases with frequency, and this effect decreases with the diameter of the son: son smaller, less resistance by the skin effect. The ideal would be to have thousands of son micrometer diameter and isolated from each

other to reduce the skin effect (son of Litz), but the loss input is already so low that trying to reduce more with so costly that the Litz wire at this level is a real purchase unnecessary waste. It will be very useful against by a elsewhere in the agreement to end, but we'll talk about in the self-generating device U where he was directed by Richard VIALLE to keep the history aspecting work.

Here there are two isolated: the red wire and the white wire. It's like improvement over a single wire, and it could have been not be made.

A hole is drilled in the end of each half-bar and a screw with a bolt placed in, to make a fastening area on which to hang an alligator clip.

Electrical connection:

Entry:

A function generator is connected directly to both ends of winding wire which surrounds the sleeve, without amplifier in the first low-power version of the self-generating.

Generator which Richard VIALLE initially had was an old generator needle did not come down to-

below a cutoff frequency (it seems that it was the lower limit frequency 10MHz). He delivered 4 to 8V effective in output depending on the frequency (output voltage decreases with increasing frequency).

Generator

Of

function

Wire "short circuit" Page 3

Output:

One branch conductor wire at the ends of each half-bar of copper (by an alligator clip), and the connected together, creating a short circuit between the two half-bars.

This is done by a laboratory lead with a copper wire of 1mm diameter with banana plugs to ends called "1 meter long" (121cm but measured from the tip of a banana plug at the other point, each banana plug end measuring a total length of 4.7 cm) connected to alligator clips.

This short is essential to the proper functioning of the self-generating. In fact the leakage inductance of the wire has a

impedance to the frequency of use which produces a voltage across the wire traversed by the current flowing in half bars. So this short-circuit does not drop the voltage to zero, as one might falsely think (it would be true DC)

Without this wire, the voltage across the wire (so half-bars) is high vacuum, but as soon as she collapses branch the same low voltage bulb, which lights only very weakly. With this wire, power is obtained active enough to illuminate strongly enough bulbs of various sizes (2.5V to 6V), there is no such effect significant collapse of the voltage. Circuit voltage measured was approximately 11V with wire only.

More when Richard VIALLE removes electrical tape between the two half-bars and put them in touch electrical, there are no more terminal voltage (the self-generating effect disappeared). So the electrical insulation (Scotch,

air, plastic) is essential.

Thus branch also across the wire (ie across the half-bars) a load (light bulb) by son ended with alligator clips.

Operation:

Is fed by a sinusoidal input signal frequency 25MHz. It is at this frequency (in fact between 25MHz and 27MHz, the display is not clear he had read that nearly megahertz) that worked best the self-generating. The bulb (4V/40mA) connected as load lights with good brightness (consuming about its nominal power $4V \times 40mA = 0.16$ watts).

When the two half-bars are attached to copper, the total length immersed in the magnetic field is $48cm = 0.48$ m.

According to the calculation formulas of Richard VIALLE resonance should have a suitable resonant frequency of $f = 5.18$ MHz

However, the function generator which he had not allowed to work at this frequency. Note that the frequency on which functioned self-generating is about 5 times the tuning frequency, harmonic 5. This is this harmonic rather than another he obtained a maximum power output (viewable by maximum lighting a bulb). Since it has a digital generator capable of all frequencies and obtained 100

Once the output power of 1

st

self-generating in the current versions.

Bulbs were used primarily bulbs 4V/40mA.

Why was it on the 5th harmonic rather than lower or higher harmonic generator available

function that had the maximum power, Richard VIALLE not answer (he has not studied the behavior off resonant frequency harmonics). Anyway he could not work on the tuning frequency

principal at that time, having no other function generator available and observed what he could

obtain.

Changing the material of the half-bars:

One can change one or both half-bars by a copper bar half of identical size or plastic just let the air used half the bar.

What must be included in the theory of Richard and are also observed in the experimental practice is copper, or plastic or air doing exactly the same job of creating electrical energy by electrons linked atoms (electrons or related plastics atoms of copper or the air). The material is a conductor or an insulator, the magnetic field which bathes vibrates bound electrons of these atoms and therefore the principle Richard

VIALLE should work with insulation too. Page 4

As against the number of bound electrons is different, then the calculations for the different current and voltage generated. And

the big difference is that the air or plastic with no free electrons, there will be no warm current (Movement of free electrons in the body half-bars). This changes the power outputted.

I saw in Richard VIALLE, the first time I saw him, accompanied by Alain B., that by inserting a half-plastic rod instead of every half copper rod and placing the alligator clips on the bulb terminals lit! (With the wire still shorted). It is more weakly lit, but lit. Same thing removing the half-bars and allowing the plastic blank inside (that is to say, filled with air). The bulb lit more weakly with the plastic. There the crocodile clips should be held with hands in the air, in the center the two outputs of the sheath. Amazing, is not it?

If one decides to take the output voltage across a piece of plastic or of a column of air replacing the copper inside, you still have a piece of the alligator clip of the thread that comes to sign on this piece of plastic half-bar (or in indoor air) is immersed in the magnetic field of winding around the sheath, also to be part of the device and the free electrons of the piece of wire are set in motion in order to create a current that travel the external circuit.

If the crocodile clips from the ends of the sleeve is placed it nothing happens: no lighting. They must enter a little into the internal magnetic field.

Research the origin possibly "normal" this energy output:

After I've seen it in Richard VIALLE this aspect of production output without half-copper rod in had made me think that the output current could be just a normal effect due to capacitive coupling between the winding serving plate capacitor and the alligator clip (or any other piece of thread) serving second plate, the air and the plastic sheath of the dielectric separating them being. Finally the alligator clip would that derive power from the input current that come from no abnormal effect.

Generator

Of

function

Inside the sheath

empty (filled with air)

The bulb lights

always

(Weak)

Alligator clip

Exposed to

field

magnetic

The internal

sheath

Alligator clip

Exposed to
field
magnetic
The internal
sheath Page 5

After discussing at length with Richard VIALLE and tests and measures have been undertaken both by me by Alain B. and Richard VIALLE, we can say that this is absolutely not a capacitive coupling drift energy from the input that can explain this phenomenon.

Arguments show that this is not the case: the calculation of the current flowing through the very bad capacitor formed by the winding capacity / alligator clip shows you really should have a lot less than what comes out in the bulb. Considerations on differences in the potential needed to currents movement in this capacitive effect having made many tests branching certain points to ground show that there is no sufficient difference in potential.

And tests Shorting this pseudo-capacitive effect by aluminum foil connected to ground show that the function generator output is the output of this (slightly decreased). Thus an effect capacitive, there may be one, but it is largely negligible compared to what we measure, and both calculations current, potential difference measurement and experience this shorting effect show a broad effect abnormal remains that is not explicable by ALL the capacitive shunt from the entrance.

Electromagnetic radiation either can not explain what is obtained. Not only shows the calculation the coil carried by the wire surrounding the sheath has a totally inadequate length of the radiation wavelength emitted by even harmonic length but more radiant energy is not sufficient to cause the lighting effect by induction.

Finally, the wrapping of the entire half-bar with its winding in a sheet of foil last Earth has shown that the production outlet was still present (but decreased in fact for obtaining the frequency of surunité was modified by changing the frequency you could get the same brightness). So the radiation is not the case.

Anyway to finish, measures power actually consumed input were then able to show that the input power is less than the power output (the input power is then radiated or coupled capacitively to the output or other artifact, and losses by the Joule effect in which the input coil consumed). This shows that there is an abnormality and therefore much of the surunité.

Measures of input and output power:

1) Ecole Polytechnique de Lausanne with an oscilloscope in the laboratory of physical measurement When Swiss sponsors contacted Richard VIALLE he had this self-generating device. He was invited to come to Switzerland with his self-generating bar and function generator to power it.

They organized a measure of the input power and output power by a person working at the Ecole Polytechnique de Lausanne in Switzerland, in the section of physical measurements.

There, a physicist, specializing in sound and waves used a powerful oscilloscope and a metal 1 ohm resistor to measure the voltage across the input winding and to the self-generating across the resistor which had was connected in series. With the series resistance it has determined the current, and there was measured the cosine of the phase angle.

A function of internal calculation of the oscilloscope gave power with these data.

Meanwhile the self-generating delivered them output 0.16 Watts bulb 4V and 40mA. The measurement gave a consumption entry $0.000001 = 10 \text{ Watt}$

-6

Watt, namely: $\text{COP} = 160000$.

Then the mass of the generator has been disconnected from the half-bar, so that the half-fed rod remained the only "hot spot" out of the function generator. So we had only loss as the antenna effect of radiation, even the effect of resistive skin. So even less input. The bulb is lit a little more

slightly, but remained well lit.

The person making the measurement exclaimed "there is nothing to entry"

The power consumed at the inlet was considered zero, below the threshold of measurement of the device.

Virtually we could then give COP = infinity, but obviously it would be wrong because there are losses Page 6

radiation, even if they are minimal. In any case the COP was thus even greater than before. And this demonstrates that the portion, as has been mentioned, the antenna is formed by the coil is completely unsuitable for radiate a significant fraction of the input power, because it is not carried out for this.

This measurement was made with the function generator Richard VIALLE limited in frequency between 25 MHz and

27MHz.

2) High Frequency Power Meter with a friend of Richard VIALLE

Another measurement was made with a friend of Richard VIALLE by direct measurement of input power and output by a High Frequency meter, so without going through a resistor and a cosine phi on oscilloscope. That time is the generator G which had been placed on the test bench, but the results were identical in principle with a COP of at least 10,000.

3) My actions

I myself have made power measurements on a linear generator 2 meters which gave a minimum COP 300 to 580 of the same apparatus with measuring equipment not having high accuracy (measurement of phi on oscilloscope and minimization measure by subtracting the reading error). COP these are minimum values and may have been much greater.

Calculate the resonant frequency of the total rod length (length of insulating + copper inserted):

In notepaper scanned following, I noted the average angle α orbits of the electrons relative to the axis of bar. Richard VIALLE was experimentally measured by another experiment that $\cos^2(\alpha) \approx 0.45$

(To measure, Richard VIALLE considered a measure in which this angle appeared by its cosine and made the relationship between the actual output was measured on mounting and what would appear considering α . This has given a simple equation to determine $\cos(\alpha)$

This angle α appears only in the cosine. So this value there \cos^2 will be used ($\alpha) \approx 0.45$ in the calculations.

I also noted α the fine structure constant,

It appears that in the calculation of the velocity of the electron gives: $v = \alpha c$ (c: velocity of light).

It would be better that I note the angle of the orbits differently to avoid confusion, but it's always after it realizes what he should have done. So that being said, you can read the next page without confusion possible now!

We note the final page of the calculation we have a simple numerical formula to calculate the frequency resonance to apply to whatever length bar:

..
 \sqrt

Hertz

with L: length in meters of the bar Page 7

Page 8

Equivalent circuit diagram of the self-generating assembly:

Ideal scheme vacuum:

Richard VIALLE schematically the production of electrical energy from its ideal self-generating vacuum output as being that of a generator current ("cold") represented as follows:

On the left a current generator outputting a current i

0

(Richard VIALLE called "cold flow"). This

current is "cold" because it causes no heat dissipation by "friction." When an electron orbit around the nucleus it does so without "friction" while the free electrons through a conductor "rub" defects on the conductor (quantum of vision of the rebounding of the electron wave function it would be called on the wave functions of the sheet metal defects due thermal effects and lattice defects various constitutions, in short).

This current i

0

Alternative to the frequency imposed by the function generator is sinusoidal electron current related half-bars produced by Richard VIALLE effect under the effect of amplifying the oscillation of electrons related total by the magnetism of the coil surrounding the rod bar.

C

0

is the virtual capacity representing the theoretical phase shift between cold current and voltage across the bar. It has nothing to do with the capacity due to power outage between the two half-bars. Richard VIALLE shows in theoretical calculations that the current available at the output of the half-bars A and B-phase with the voltage the terminals A and B of exactly identical to the phase shift produced by a dummy capacitor. He therefore calls capacity "virtual".

Following a scan of the page showing the existence of the virtual capacity C_0 by theory. A numerical application is performed for another type of self-generating, similar in principle, said "U". Not taken into account here, since it remains in first, limited to 1

era

self-generating version. Page 9

Page 10

Important Note on AC power:

Indeed it is known that AC electrons do not move over long distances as DC.

In alternate sinusoidal, an electron is moved in one direction, then evenly pushed in the opposite direction, and thus away. So it does not move in average, but it vibrates on either side of its mean position. The higher the frequency, the greater the vibration amplitude is low because it is not time to move in a forward direction as the opposite voltage sent from the other side. One could say that the higher the frequency, the greater the electron make on site.

Yet it well defines "current" electric AC, although the electrical current movement of electrical charges over time. Yet we can not really say that the charge of the electron moves, it vibrates. In fact there is no need for macroscopic movement through the entire circuit of an electron so that its load moves. Just consider the infinitely small path that will travel half an alternating vibration and calculate the number of charge carriers will cross the imaginary section driver concerned, which has no thickness, so the crossing will even if the distance is small.

What will truly go the circuit is the electric wave, electromagnetic pulse due to shock electrons against each other when vibrated. This electromagnetic pulse moves the speed of light in the copper conductor. It only makes a real move in the conductor. This is similar to the metal balls contiguous single file to each other and suspended by a wire bar. Taking a ball at one end and which strikes against the chain formed by the other, a pulse will pass very rapidly through the whole chain and the last ball of the chain carries with it and the pulse is propelled. The beads are electrons and the pulses are those from generating alternating current.

The impulse that travels the chain is the electromagnetic pulse. Electrons repel their load Electrical and this is what allows the "contact" between each electron can "press" the neighbor.

So the electrons do not need to travel a long way and therefore need not be very free in their movements that define the notion of high frequency alternating current. However, we must be in a conductive material for this because of an insulating material, an electron bound to a given pulse around a

atom will not be transmitted to neighboring electron because the electron remains in orbit around the atom that keeps prisoner, and therefore no pulse transmission in the transmission of the pulse axis at an electron from the atom neighbor (Which is not too far and sensitive to the transmission, the electrostatic attraction of the nucleus on the electron is too large to allow it), so no AC. That is why we have current in the conductors, which Free electrons are able to move to the neighboring electron in the transmission axis of the pulse. Note that I am not saying that the electrons do not have speed in alternating current. They have a non-zero speed every moment except when she vanishes to become the opposite. But the average speed is zero. Speed ranges from a maximum to a minimum in the opposite strictly symmetrical sinusoidal current. But the electrons do not go far, their movement to return with the same central position is a vibration. Speed variant is the Because of the generation of a magnetic field varying at the same frequency, so that they do not particularly have no speed!

Using the remark on the AC to set the cold current:

If we now take the case of Richard VIALLE effect, and it is considered bound electrons, a phenomenon was macroscopic electron oscillation on either side of their average orbit (Bohr radius). In the direction the bar, you can watch part of this oscillation is then observed that all of the bound electrons material oscillate in one direction, then in another.

This is not a transmitted pulse at one end that is transmitted and is responsible for it (should that electrons are free to do so), but the effect is the same, even if the cause is different: there is a pronounced movement in a sense the bar synchronously (via the oscillating magnetic field which gives that extra oscillating electron movement), and then in the other direction.

There is a synchronization (due to the fact that the magnetic field is the same at any point of the bar at a time given, neglecting small differences due to the speed of light which is the speed of the current path magnetizing coil and thus the transmission speed of the magnetic field across the bar). Page 11

But this is equivalent (but not identical equivalent) at a pulse transmission along the bar from a source generating these pulses. That is to say, the bar behaves similarly to the existence of a current alternative but would be spread only by bound electrons.

So we can legitimately consider that we have an alternative current flowing through the bar to the generator frequency

function. This current ("cold"), however, only an electrical vibration that travels the bar so synchronized and which does not allow the exit of electrons in an external circuit.

If you want to use the previous wiring diagram, you should be aware that the cold current will NEVER go out of bar, it is a synchronized movement of the material of the bar by the magnetic field which dips into it. The single stream that can come out of the bar is the current free electrons Bar, powered by the field electricity produced by the event, the cold current.

This cold stream only exists as the cause that the production of an internal voltage which may develop movement of free electrons while conductor connected to the bar. The only power that can come out of the bar is a free electron current. So we must change the equivalent schematic for not believing that i_0 out of the bar, not this:

This electric model is self-perpetuating about the ONLY certainty in the electrical model of the output.

In fact it comes from the cold calculation laid connecting current and voltage generated.

All other style considerations that follow are merely elaborations based on considerations variety that can be challenged at any time through experience or other new considerations.

It's research!

Scheme in the absence of cut:

If the self-generating was not electrically cut in the middle, then there would be a flow of a current

free electrons (that is to say the electromagnetic pulses in the synchronized free electrons produced by the generator that electrons are related). Free electrons circulate in the total bar (actually mentioned they do not really run, it is their impulse that would flow) due to the cold wave current (in phase with cold current in a pure resistive conductor without reactive or capacitive reactive magnetic braking). So clear the free electrons flow internally to destroy the electric field created by the effect Richard VIALLE in self-generating, which collapses the overall current and the total voltage across the bar. So let these electrons move back to let it go (or greatly reduce) any self-generating effect. One might say that the high-frequency alternating current passes still the two half-bars on uncut portion and therefore we have the same concern for cancellation of the electric field in these bars. This is true, except that it is not possible for a bar to another, because the impulse does not cross the cut and therefore we still even an electric field created between the bars rest by the self-generating effect and which can not be compensated by electromagnetic pulses which pass through the cut and put in motion the electrons, even if the remains free electrons of the half-bars is driven by pulses collapsing the electric field is present within half bars. This is the cut that preserves the existence of an electric field between the half-bars and thus preserves the self-generating effect. Page 12

We can see the limits of this reasoning since still has a capacitance effect by power outage between the two half-bars, which allows precisely the effect of side loads transmitted pulses across Proximity. However, the current can flow in this capacity is very small because the capacitance between bars expresses at most a hundred pico farad if the bars are joined by a thin electrical tape or pico farad space with thick plastic (impedance of several hundred ohms is very close if some or Tens of thousands of ohms if you have a good separation cut) depending on the distance between half-bars. This means that the collapse of the self-generating effect is much lower than the cut is better (capacity very low), which seems logical.

If not we would have cut the following diagram:

Free electrons undergo resistance when they generate a current, and so there is a resistance R

0

add

in the side of the schematic generator of current i on the right (and the copper rod should be heated under the effect This "warm current").

The

0

is the leakage inductance of the entire rod (leakage inductance due to the passage of free electrons). It represents the effect

storing magnetic energy by the free electrons at their vibration in the axis of the bar.

The two streams will share the same bar, some as cold electron current related and others as stream of free electrons.

The left branch describes the bound electron current (cold current) and the right stream of free electrons (Hot stream).

One might say that C

0

accounts for the bound electrons, the cold current (no free electron can pass through C

0

that does not exist in itself really, it is virtual).

C

0

expresses the phase difference between the voltage across the bar and the cold current, but if a current

free electron is set in motion, it will be in line with the cold current (if the driver is purely resistive, if it is reactive, it will create a magnetic or capacitive braking and therefore an additional phase shift, a "delay" which addition), so the voltage of phase in the same way. So C

0
also appears across current flow
free electrons.

The scheme is perhaps not quite accurate, but it means a current of electrons is created that creates a compensating voltage to the voltage causes electrons bound, leaving a zero overall voltage across the bar. Now begin considerations that we do not know if they are accurate or not. It is the experiences of allow to settle and refine the understanding of what is happening or not more complex.

Interpretations and models are what you make. But experience surunitaire it is there and undeniable. Do not have completed model in no way means we do not have an already large and usable phenomenon. Following the paper is an attempt to predict and control the pattern obtained in the course of development. Page 13

Actual schema supported:

If any current fate of half a bar by an external circuit to reach the other half of the bar, it produces a stray magnetic field crossing the bar. It is almost as if we had restored power outage in the bar, except that instead of circulating current flows internally and externally.

If a load is connected to output terminals of the two half-bars, the free electrons will be able to create a current half-bar for joining the other half-bar in by circulating the external load, by the effect of the current AC sine wave (it being understood that as we have already said this is a bad way of saying things because electrons vibrate only and it is the electromagnetic pulse that travels completely).

The scheme of real self-generating while charging is equivalent to only part bar:

The
0
is the leakage inductance of the whole bar for the current free electrons will come out of the bar by the load outside (we were told there was a charge, but here it did not materialize, we take care of the "bar" part). Now at the considered frequency of operation (large enough), we can show that the impedance produced by the capacity of the virtual capacitor C

0
is small compared to that produced by the self inductance L

0
.
So we can neglect the first impedance to the second, this means that you can erase the capacitor of capacitance C

0
before the inductor L

0
.
The actual generator load for the rod part can only be considered finally schematically in this case by:

Equivalent circuit diagram

A
B Page 14

Can also be added in series with L
0
a resistor R

0

which is the resistance of the skin effect of the electrons passing through the copper, to be more rigorous. Passing in equivalent circuit voltage generator is obtained with the load:
The cold current i

0

vibrate in phase with the current free electrons that traverse the leakage inductance and send in outside the circuit.

Thevenin equivalent generator Norton previous produces a voltage U

0

$JL =$

0

$\cdot \omega i.$

0

This voltage (electric field) accelerates the free electrons of the half-bars (makes them tick because it is AC) and the current "hot" thus generated (which has nothing to do with the cold current except that the latter is cause) through the leakage inductance of the bar: there was a choke for free electrons and shows the choke

The leak

0

. And of course the bar has a resistance to free electrons that travel, which is increased by more the skin effect on the bar. This resistance is R

0

.

Found between A and B is a new model of self-generating, but is only valid if a load Z

ch

is

connected to the terminals (for the current "hot" is established).

Actual schema supported with wire short circuit:

If a wire of "short circuit" is connected to the terminals of the self-generating, as is the case of the experiment, this thread will

traversed by a current, and it will have a leakage inductance L and a classic resistance that adds resistance due to the skin effect at high frequency is called A .

The load impedance Z

ch

is the bulb (+ inductive resistive leakage spiral filament)

Here's the scheme:

Equivalent circuit diagram: Page 15

If we look at what happens digitally, R

0

is small compared to the impedance of the inductance of inductor L

0

therefore can

for simplicity assume that R

0

does not exist. It is always what Richard VIALLE in his schematic.

However, it should restore R

0

if a compensation circuit is carried L

0

and L by an agreement with a capacity (which is done in what is called the output tuning)

Well in the branch containing L and R, numerically we can see that R is small compared to the impedance of the self inductance L and can be simplified by assuming that R does not exist. The same applies to the recovery of R if an agreement is carried out.

Keep all these elements to the fullest possible calculation.

We can already redraw the diagram in a more convenient form to see the voltage divider.

What is the advantage of using the wire shorted?

Let's see what happens without the short-circuit to answer the question.

The diagram are annotated, the one without the short circuit first taken up:

Generator

Of

function Page 16

The filler being a light bulb, has a resistive part R

ch

and an inductive component L

ch

Z

ch

R =

ch

+ JL

ch

. ω

For a bulb 4v/40mA as those used in the experiments, I could measure with an ohmmeter:

R

ch

= 12.4 ohms cold (and 100 ohms hot, the filament resistance increases with temperature)

The

ch

<150 nH estimated by indirect measurements (measurement at LC meter is false because of the resistance)

U

ch

U =

0

-U

the

-U

r

JL =

0

. ω i.

0

-JL

0

. ω . iR

0

. I

Thus the active power in the bulb is written:

$I^2 R$
And after a few long to write here, writing laws and mesh nodes calculations, we arrive at
 $\frac{L^2 \omega^2 R}{2}$

$\frac{L \omega}{2}$
RL
RL
RL
RIRIRI
 $\frac{L^2 \omega^2}{2}$

compared with the case of wireless short-circuit gives:

$\frac{L^2 \omega^2}{2}$

The
The
 $\frac{L^2 \omega^2}{2}$

The calculation of the resistance of skin gives:

Thickness skin given in meters:

We calculate the skin depth in mm:

mm from the rewrite:

with $\rho = 1,7 \cdot 10^{-8} \Omega \cdot m$ resistivity of copper and f . AC frequency in Hertz

Then the effective considering the skin effect resistance is calculated (that is the total resistance of the material; effect

skin included) by:

$\frac{L \rho}{\pi r^2}$ where r is given in mm if you have a solid wire diameter circular radius r and e given by mm previous formula.

With the resistance continuously (without skin effect) of a data driver:

where L = length in meters of the driver and S : section m^2 driver

Or more generally, but in an approximate way:

$\frac{L \rho P}{e}$ with P : total perimeter mm section of the bar (if material hollowed add the perimeter edge Interior to the outer edge, that is the perimeter of any section of the bar defined by the ambient air) and e previously given in mm.

Thus it calculates a short-circuit wire of 1.21 m long and has a diameter of 1mm resistor R

$R = 0.024 \Omega$ (one takes 2 x 4.7 cm banana plug)

Note:
At the frequency $f = 3.6 \text{ MHz}$ this gives a skin resistance: $R = 0.18 \Omega$
Richard VIALLE often takes on the value $R = 0.15 \Omega$ in the interview because it is the skin resistance which corresponds to wire with a length of 1 meter (he considers wire 1 meter and not 1.11 m as measured more precisely) Page 18

Here we are at $f = 25 \text{ MHz}$ and then a $R = 0.46 \Omega$ for the short-circuit wire of 1,116 m.

Doing the same for the bar we get R

0

= 0.008 Ω (which is very low because there is a very high bar section therefore very low resistance)

Leakage inductance:

An online calculator provides a means to calculate the leakage inductances. It is based on the following formula (L given by this equation with nano Henrys):

l: length of the wire in cm d: diameter of the wire in cm, μ_r : relative magnetic permeability of the wire usually denoted μ_r

($\mu_r = 1$ if non-magnetic)

x is only an intermediate parameter calculation

See calculator here:

<http://www.consultrsr.com/resources/eis/induct5.htm>

Is then obtained L = 1.71 Henry for micro leakage inductance of the wire shorting 1.116 m

Note 1:

A frequency of 3.6 MHz that gives a leakage impedance of 34 Ω of 1 meter, which speaks in Richard VIALLE the interview. Here working at 25MHz, which changes the value.

Also obtained: L

0

= 370 nano Henry for a bar section 1cmx3cm 48cm long (it fits the formula crudely by saying that a round bar of radius 9.77 mm which amounts to the same section of 3cm²)

You can also find other simpler formulas (less good approximation) to the correct VHF frequencies:

: L given μH , with: length in mm and d: diameter mm

See: <http://www.rfcafe.com/references/electrical/inductance.htm>

Or more complex formulas, best approximation, accurate to a few percent:

r: radius in cm, d: diameter cm l: length in cm f: frequency in Hz;

μ here is the total permeability (= $\mu_r 4 \times \pi \cdot 10$

-7

)

See: <http://chemandy.com/calculators/round-wire-inductance-calculator.htm>

As these formulas are an approximation anyway, use the magnitude of the result given by the first two significant digits.

Assessment of numerical values and numerical calculation of active power:

R

0

= 0.008 Ω

R = 0.46 Ω

R

ch

= 100 Ω supported (hot filament)

The

0

= 370 nH Page 19

L = 1.71 μH

The

ch

<150 nH (which takes as value calculation)

We can now calculate powers.

. L². Ω². 2 R i

L ω

2 2

RL

RL

RL

RIRIRI

$2 \cdot \Omega^2$

13.8. $2 i$

$\cdot L^2 \cdot \Omega^2 \cdot 2 i$

2

The

The

$2 \cdot \Omega^2$

20.3. $2 i$

So it seems to be a big problem: the power obtained without the wire is calculated greater than that obtained with the wire. Yet experience shows the opposite: we have more active power output with the wire without the wire.

Note:

As we do not work on surunitaire frequency but a harmonic frequency (harmonic 5 as was

vii) the current i

0

which runs the generator is much lower than one would expect (under development resonance of electrons). Indeed we leave around 0.16 W output with the wire connected, so we have a cold current of the order of 250 mA.

At the resonant frequency adapted a much larger cold stream would have, but also a decrease in active power in this calculation because the pulsation ω becomes much smaller.

It would in any case a current i

0

very small here because estimated at 300 rpm input two son 0.5mm inductance diameter parallel (equivalent to 1 to 0.71 mm diameter wire) wound about 48cm in length with a diameter equivalent

1.95 cm (1cmx3cm rectangular) gives an order of magnitude estimate of an inductance $L = 10$

-4

H

This gives an input impedance of $L\omega = 15\ 700 \ \Omega$ approximately. Under effective 4V was therefore a current in the coil

of the order of 0.25 mA which is ridiculous and is extremely low magnetization. It is understandable why surunitaire the effect (though it was right there) gives an output of cold current very small.

Explanations on the consistency of output powers in both cases:

This is the last element of the theory of Richard VIALLE about his observations surunit  including return the output to the input come out!

Indeed, it has not yet spoken, because it is something he has done in 2

th

self-generating version, Richard

VIALLE was found that the energy went back to the feed inlet of the winding.

This helped develop a battery powered device that reloaded the battery used to power control electronics even though the self-generating retailed. He could make a loop with this process and ultimate way to prove that any calculation except the system worked alone (for weeks and months) independently.

We will return later in the following document on this 2

th
self-generating.

When the short-circuit wire is set up, and that has not placed bulb, there is a "load" consisting only of wire short-circuit has a very low impedance. It therefore allows a larger current to leave the circuit (more with the bulb alone).

This free electron current flows in the bar, so it produces a magnetic field in the bar. Page 20

It has an additional magnetic field is created, which will increase the cold current produced by Richard effect VIALLE (more magnetizing more cold current).

So when you put the wire was more current i

0
comes out.

The formula for calculating the power becomes possible, with the short-circuit wire:

Richard VIALLE writes that in this case the new cold current is of the type: i'

0
 $= Ki$

0
where i is the current that passes through TOTAL

the external circuit and thus crosses the bar too, which creates a cold stream additional induction of a field additional magnetic. k depends on the external stream leaving the bar, so the assembly.

So power calculations are modified as follows, if we calculate numerically:

Without short-circuit:

$i = 0.20 i.$

0
;
 $20.3. i^2$
 $20.3. K^2. i^2$

With short circuit:

The current through the resistor is only 0.16. $10 i$ but in the entire circuit is 0.32. I

$i = 0.32 i.$

0
;
 $13.8. i^2$
 $13.8. K^2. i^2$

We thus arrive to explain that P

active2

$> P$

active1

with this consideration if k is large enough. The k value remains determine exactly what it is.

Estimates (nothing specific) Measures voltage and current calculations have evaluated roughly by taking $k = 1$ in the case without thread was then $k = 10$ in the case with wire.

The result would be:

$20.3. i^2$ (wireless) and

$138. i^2$ (with wire)

So if you have the nominal power bulb with wire or 160mW, 24mW was then only in the bulb without the wire, which thus does not almost illuminates. Estimates of k were made to draft this document with gross values of voltages memory should re-edit to calculate what is so accurate.

But it helps to understand what happens on the bottom.

The short-circuit wire is a means to charge the external power amplifies the effect that is surunitaire then available at the output. Indeed deliver a single bulb is much less common than large bulb setting parallel wire. Of course the thread engulfed part of surunitaire current, but it is so multiplied that the part remaining for the bulb is much higher than it was without.

This is a crude way, a first draft only. , Without any adjustment to amplify the output effect by adjustment of the output (which is feedback to the input, feedback effect shall we say).

Richard VIALLE then had the idea to make this short circuit by eliminating the impedance of the outgoing circuit.

As the reactive impedance is inductive type, he added a capacitor in the output branch. And used as variable capacitor provides capacitive reactive impedances quite large, the compensation is too high, so it was used as an additional choke in the output, to increase the reactive impedance of inductive types. Thus he realized the release agreement. We will return to the other party, on the 2

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self-generating.

It is not said that any electrical theory should not be questioned, and as already said given model is a test conducted by Richard VIALLE understanding.

The surunitaire effect is there, the output power is there, but exactly how it works is still uncertain, and at the risk of repeating ourselves, this is why it is the domain of SEARCH!

MORE to come ... self-generating U Richard VIALLE: 2

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self-perpetuating, with and without feedback system