Asymmetrical Transformers Pg2

UR4III said: ↑

Well, tell me how and due to what energy is consumed by capacitors and inductors, excluding their active components? So far no one has been able to do this. You will be a pioneer!

In a typical oscillatory circuit, reactive energy losses in odd cycles of a period (in a period of 2 half-periods and 4 cycles) are compensated for by reactive energy generation in even cycles from the EMF of self-induction, therefore the total reactive action is zero. And there is only active resistance.

But if the input of making induction-self-induction cycles changes the inductance of the circuit, then we get the asymmetry of the field in cycles. And then there will be either additional energy or its loss at the reactive power of the circuit. Here is an example scheme for recharging a capacitor in an oscillating circuit with more energy in the 2nd cycle, due to reactive power control.

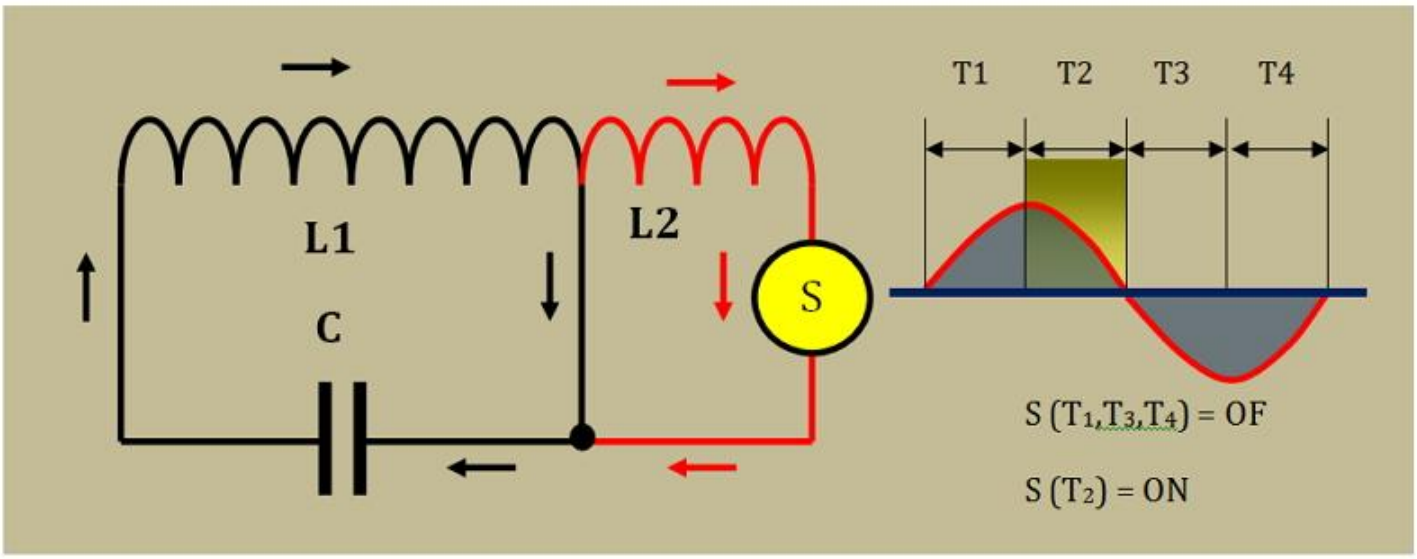


Fig.1. Attempt to recharge the capacitor in the oscillating circuit LC with more energy, due to the addition of additional inductance L2 to L1 while reducing the magnetic flux. S is the key controlled by the controller. The key is open only in the 2nd cycle.

It is possible to imagine a symmetrical scheme with 3 windings and 2 keys operating respectively in 2 and 4 cycles.

AAbramovich, January 14, 2016

Many ask:

It is interesting to find out why Tesla came up with a bifilar coil and does it have something to do with CE? If so, then why is it almost nothing sensible they do not show and do not speak, but demonstrate different experiments, as with a conventional coil?

Unfortunately, no one on the forum knows how and why to use the bifilar coil winding to obtain CE in electromagnetic devices. However, the answer is quite obvious. It consists in controlling the inductance of the coil in the phases of the formation of anti-emf and useful emf in the tact of the coil. The coil is divided into 4 cycles. In 1 and 3 cycles, there is a counter-emf of self-induction or induction of the secondary circuit. In 2 and 4 cycles, only useful emf. This is discussed in the next article.

Link to the file "The principle of asymmetry of the transformer.docx"
https://cloud.mail.ru/public/iGyZ/KKnbpa4ub
Link to the file "The principle of asymmetry of the transformer.pdf"
https://cloud.mail.ru/public/K3Ew/gjhFujcuT

Below, we present a general concept of using bifilar windings for obtaining additional energy in CE devices.

Bifilar winding as a control element of a coil inductance in the phases of its operation

The bifilar coil extinguishes the electromagnetic fields of the inductance, while maintaining current in it, which can be caused by some small additional winding. That greatly reduces the inductive resistance in 1 and 3 cycles of the coil's operation cycle, when the anti-emf forces of the self-induction coil act. While in the 2 and 4 cycles, these forces become useful for the EMF and maintain the current in the coil. During these cycles, one of the parts of the bifilar winding must be turned off, so that the induction of the second part and the winding that created the initial current began to work. In this case, when disconnecting the pair part of the bifilar winding, we get an additional EMF from the EMF connection of the initial winding, and 1/2 of the bifilar coil. In view of what increases the power of the device, which contains additional energy. Since the excitation of the current in the coil occurs at low power consumption, low EMF and high current in 1 and 3 cycles. And in 2 and 4 clock cycles, while maintaining this current, an additional EMF generated when part of the bifilar winding is removed / disconnected, in 1 and 3 clock cycles, the device compensates the inductive resistance.

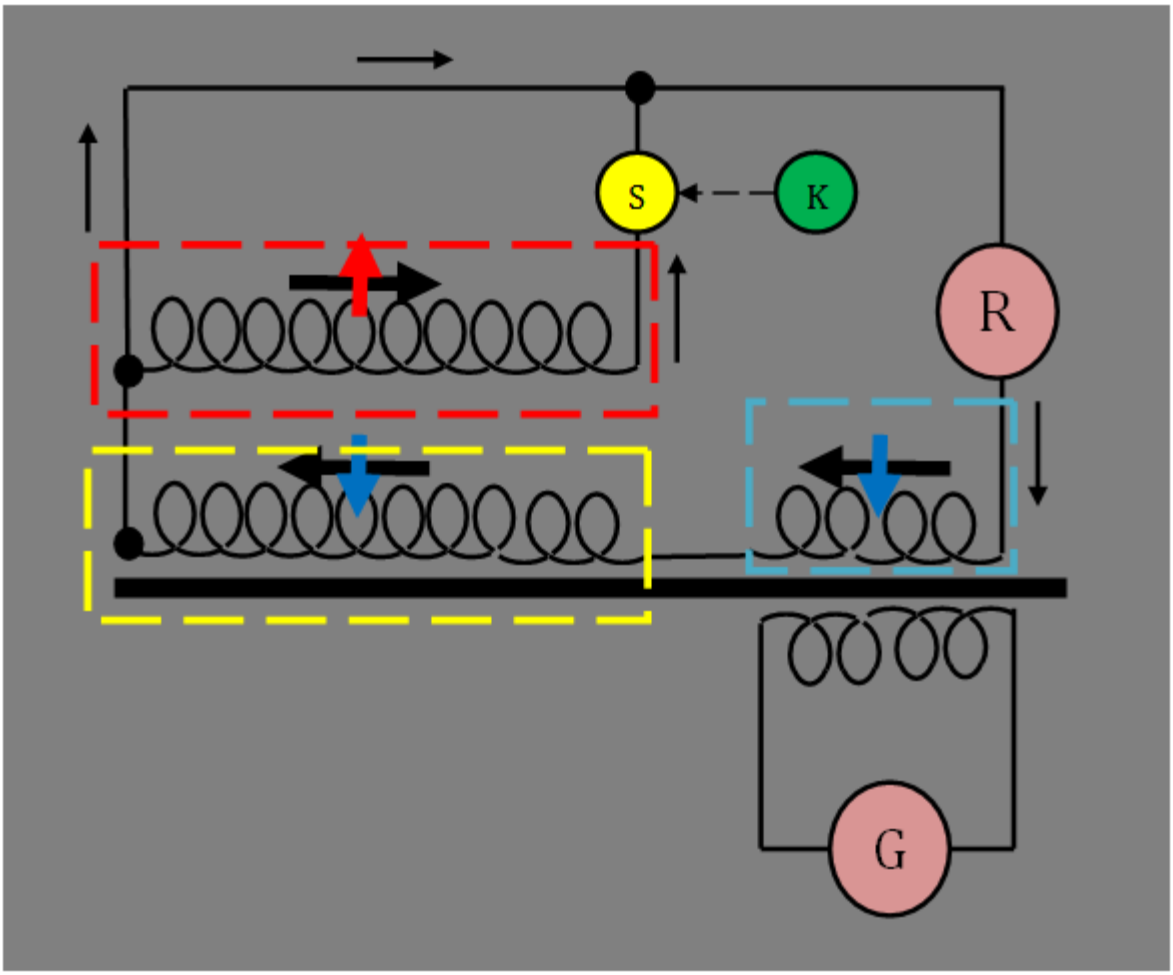


Fig.1. The use of bifilar winding and pump coil in the secondary circuit of the transformer to obtain additional power and reduce the back-emf from the secondary circuit on the primary circuit.

Figure 1 shows the effect of a bifilar coil in the secondary circuit of a transformer fed in the primary circuit from a frequency generator. G is a generator, R is a load, S is a controlled key, K is a key control controller; 2 and 4 cycles of the bifilar winding, but working in 1 and 3 cycles.

Black bold arrows indicate the direction of the current in the coils, colored arrows, the direction of the current in the turns of the coils.

If this is not very clear, then you can disassemble in more detail.

AAbramovich, January 14, 2016

AAbramovich said: ↑

You can not immediately embrace the immensity. Let's first analyze the formation of anti-emf in engines and electric cars in general.

Did you decide to take me out? I am not a grateful listener, but an opponent. It was about a transformer, about inductors, about active and reactive currents.

I still do not know your answer about the vector diagram of currents and emf in coupled circuits. Look at her carefully! There is no counter-emf in the primary coil in the even quarters of the sinusoid! She is always there!

All the best!

UR4III, January 14, 2016

UR4III said: ↑

> Did you decide to take me out? I am not a grateful listener, but an opponent. It was about a transformer, about inductors, about active and reactive currents.
>
> I still do not know your answer about the vector diagram of currents and emf in coupled circuits. Look at her carefully! There is no counter-emf in the primary coil in the even quarters of the sinusoid! She is always there! All the best!

You do not want to understand the essence of the work of the forces of induction and self-induction in inductances and transformers, which are reduced to the direction of the field shift in inductances in different cycles. And generate changes in the magnetic flux and phase shifts of voltage and current in the circuits. Therefore, you will always remain only within the framework of those concepts that are known to the orthodox technique. And you will never understand the receipt of free energy in electromagnetic circuits.

Still, let's analyze this example.

Example.

You give only one pulse of EMF and current in the primary circuit. It generates an emf in the secondary circuit and a time-delayed current. This current creates an emf on both the secondary and primary circuits. But at this moment the primary circuit is already disconnected, and the EMF of the secondary circuit does not create any current on it. When the current in the secondary circuit stops, as does its EMF acting on both circuits, then the EMF and current pulse of the primary circuit is turned on again. Why do you think that in this case, the primary circuit should act on the counter-emf from the secondary circuit, if the circuit is turned off?

I would like to hear your explanations.

AAbramovich, January 14, 2016

Hello . An experiment was conducted on the organization of "temporary asymmetry of tr-ra". Transformer - OSM - 1 kW. 220 volt primary winding, 380 volt secondary winding. The load connection (two lamps of 100 watts each, connected in series) was performed with a thyristor at 2 and 4 clock cycles. On the oscillogram: the upper beam - the voltage on the load (divider 1: 100); lower beam - current in the load (voltage on the shunt 0.2 ohm, connected in series with the lamps. The primary current was also controlled using a 0.2 ohm shunt. When the load was connected, the primary current increased (the amplitude of the voltage on the shunt increased) True, this voltage (on the shunt) is a very

“frivolous” form (not sinusoidal), so it is difficult to say how much the consumption of the power of the device increased.

Last Edit: January 14, 2016
7b63am, 14 January 2016

orry - I'm not in the fall ... The first time on the forum, do not judge strictly.

Attachments:

AAbramovich said: ↑

You do not want to understand the essence of the work of the forces of induction and self-induction in inductors and transformers,

AAbramovich said: ↑

Why do you think that in this case, the primary circuit should act on the counter-emf from the secondary circuit, if the circuit is turned off?

I told you in my own words what your mistake is. Cited vector diagram. And you still have not figured out ... And here are the orthodox?
Even if you discovered something new, it generally does not reject, but complements the old knowledge. Okay. Last try.
1. We have a current in the primary for a quarter of a period. After this, the primary supply circuit is opened for a quarter period.
Answer: after what time the current in the secondary winding will occur and how long will it exist in it?

UR4III, January 15, 2016

UR4III said: ↑

I told you in my own words what your mistake is. Cited vector diagram. And you still have not figured out ... And here are the orthodox?

Even if you discovered something new, it generally does not reject, but complements the old knowledge. Okay. Last try.

1. We have a current in the primary for a quarter of a period. After this, the primary supply circuit is opened for a quarter period.

Answer: after what time the current in the secondary winding will occur and how long will it exist in it?

I feel that in this topic you are more prepared than me. Since electronics and electrical engineering is not my specialty. Rather, general physics and the problems of obtaining free energy in general in various systems, not just electric ones. Unfortunately, there are no universal specialists. In this connection, could you draw a picture of how the EMF will look on the secondary circuit and the current from a single pulse on the primary circuit in time (let the primary pulse be rectangular), and what will be the counter-emf on the primary circuit and the current from it. Also in time. If the circuit does not turn off. And what will happen if the primary circuit is turned off after some current pulse? Only a drawing with explanations so that all phases and their relationship with time are visible.

AAbramovich, January 15, 2016
28

7b63am said (a): ↑

Hello . An experiment was conducted on the organization of "temporary asymmetry of tr-ra". Transformer - OSM - 1 kW. 220 volt primary winding, 380 volt secondary winding. The load connection (two lamps of 100 watts each, connected in series) was performed with a thyristor at 2 and 4 clock cycles. On the oscillogram: the upper beam - the voltage on the load (divider 1: 100); lower beam - current in the load (voltage on the shunt 0.2 ohm, connected in series with the lamps. The primary current was also controlled using a 0.2 ohm shunt. When the load was connected, the primary current increased (the amplitude of the voltage on the shunt increased) True, this voltage (on the shunt) is a very “frivolous” form (not sinusoidal), so it is difficult to say how much the consumption of the power of the device increased.

Thank you for the experiment. I did not expect that so quickly someone will take up work.

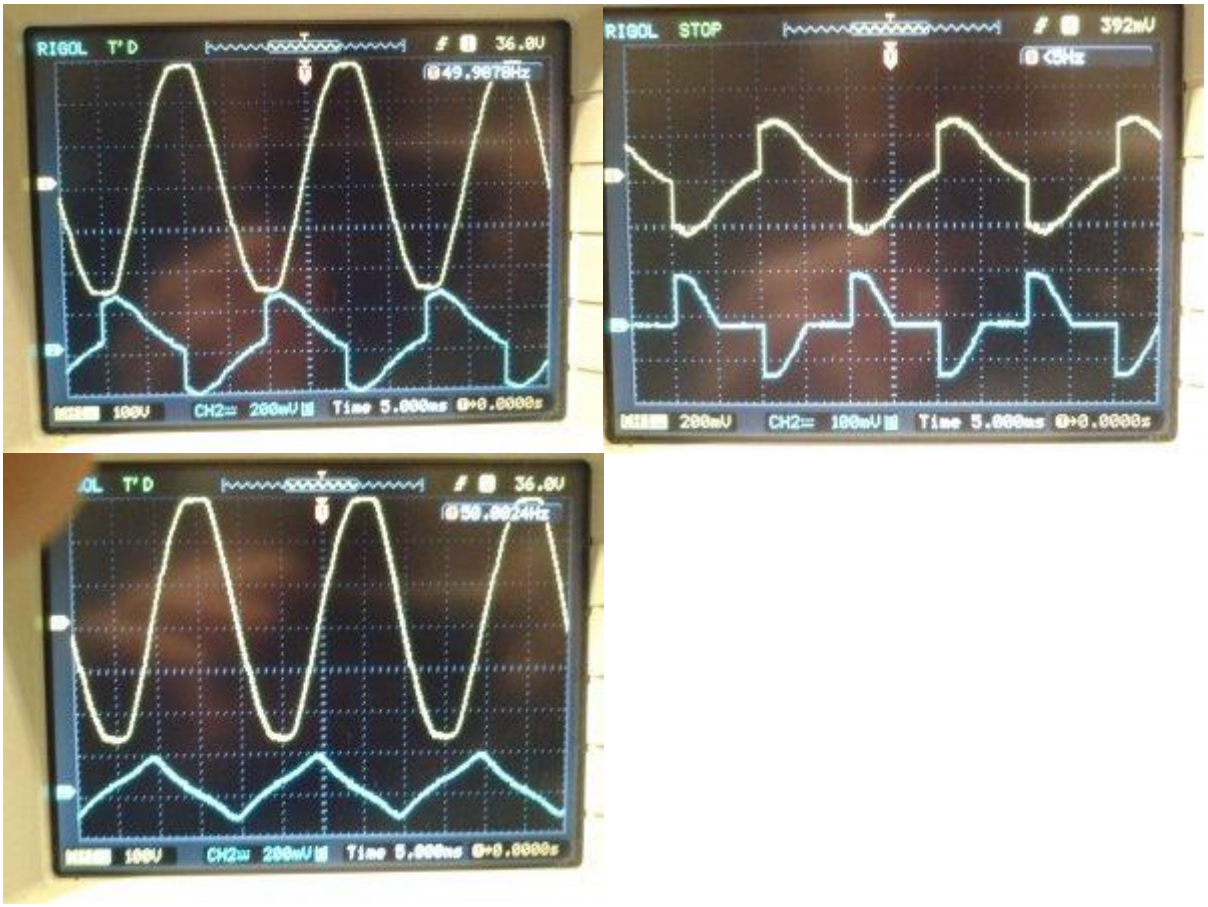
1. Tell me, is there a way to determine whether energy was released in the secondary circuit during the period of operation more than was consumed in the primary circuit? Maybe this can be done by any electronic circuit connected to the computer along with the program?

2. If in the 2nd period the EMF from the second circuit maintains and amplifies the voltage and current in the first circuit, then perhaps the voltage and current in the 2nd and 4th period on the first circuit does not increase due to power withdrawal from the network, and due to the positive effect of the EMF from the second circuit?

AAbramovich, January 15, 2016
29

Hello, Alexander ! I must immediately disappoint you - I am not an electronic engineer at all, but a simple mechanic. But at the same time I really want to be "useful" in your arduous business. Unfortunately, I cannot

reliably answer your first question. Regarding the second question - here are some other oscillograms taken from the installation. In the first, the voltage (upper beam) and the primary current with the load in the secondary. The third is the primary voltage and current without load. The second oscillogram is the primary (upper beam) and secondary (lower beam) currents. Probably, it will be possible to draw any conclusions from these oscillograms. Due to the fact that in this device currents and voltages are far from sinusoidal, it is difficult to judge the energy of the processes. Alexander, if my personality causes at least a bit of interest, let's test the spatial asymmetry of tr. There - all the sine, then it will be easier to evaluate the operation of the device? And yet: User UR4111 offers to conduct an experiment on turning off the primary in the second cycle and evaluating the processes in the secondary one at this time. If you consider it necessary, you can do this experience.



Tell me, please, how to make these photos smaller?
7b63am, 16 January 2016
31

AAbramovich said: ↑

Rather, general physics and the problems of obtaining free energy in general in various systems, not just electric ones. ... In this connection, could you draw a picture of how the EMF will look on the secondary circuit and the current from a single pulse on the primary circuit in time (let the primary pulse be rectangular), and what will be the counter-emf on the primary circuit and current from her. Also in time. If the circuit does not turn off. And what will happen if the primary circuit is turned off after some current pulse? Only a drawing with explanations so that all phases and their relationship with time are visible. [/ QUOTE]

A person interested in general physics must know what the student knows. It is especially strange that you,

citing the names of famous scientists Lenz, Lorentz, Faraday, do not know the elementary. The magnitude of the emf induced in a conductor is directly proportional to the number of magnetic field lines crossing the conductor per unit time. If in the primary winding the current value varies according to the sine function, then the rate of change in the number of lines is due to the “inclined” parts of the function graph. The maximum speed will be at the intersection of the x-axis. Therefore, the graph of the emf induced in the secondary winding is determined by the derivative of the sine, i.e. cosine function or shifted by 90 grams relative to the primary winding. Those. the maximum current of the primary corresponds to the minimum current in the secondary. Look at the waveforms 7b63am.

I will not draw anything. Everything you ask for is depicted in a vector diagram. The same processes with emf induced in the primary by changing the current of the secondary. Thus, the back emf is always shifted by 180 grams relative to the current in the primary.

Rectangular impulse does not roll. In the secondary housing two impulses will be induced from the front and rear edges. I hope you understand why.

If a periodic triangular impulse is started in the primary, the counter-emf from the secondary will appear through 180 g at the moment of the next impulse. So your idea of alternating pulses is not feasible.

UR4III, January 17, 2016

UR4III said: ↑

The magnitude of the emf induced in a conductor is directly proportional to the number of magnetic field lines crossing the conductor per unit time.

This we know.

Only out of pure curiosity: how in experiments to count the number of lines of force, which device? And how many of them usually happen?: Smile3:

UR4III said: ↑

If in the primary winding the current value varies according to the sine function, then the rate of change in the number of lines is due to the “inclined” parts of the function graph. The maximum speed will be at the intersection of the x-axis. Therefore, the graph of the emf induced in the secondary winding is determined by the derivative of the sine, i.e. cosine function or shifted by 90 grams relative to the primary winding. Those. the maximum current of the primary corresponds to the minimum current in the secondary. Look at the waveforms 7b63am.

For periodic functions of sine and cosine, this is understandable. They are derivatives of each other.: Smile3:

And if the current in the primary winding does not change the function of the sine?

Then what will be the derivative of it in the secondary winding voltage, is cosine? Similarly, if the current in the secondary winding does not change according to the sine function, then the emf from it on the primary winding will not be cosine.

In addition, it is only the sine of the cosine shifted as a derivative by 90 degrees. And derivatives of other functions of currents can be shifted to other angles determined by the derivatives of functions. Especially for single pulses. And then how to build a chart? : smile3:

UR4III said: ↑

I will not draw anything. Everything you ask for is depicted in a vector diagram. The same processes with emf induced in the primary by changing the current of the secondary. Thus, the back emf is always shifted by 180 grams relative to the current in the primary.

What do you mean by 180g if the impulse is single? Or if the process of creating pulses is not periodic?

UR4III said: ↑

Rectangular impulse does not roll. In the secondary housing two impulses will be induced from the front and rear edges. I hope you understand why.

By the way, this is curious. If the middle of the pulse is sufficiently long, then the EMF from its slopes is formed on the secondary housing by separate pulses of EMF and currents. The pulse of the first current may already fade out when the pulse of the second part of the EMF begins. Accordingly, these two current pulses in the secondary will create on the primary winding also two emf pulses. Moreover, the primary pulses can be chosen such that both secondary pulses will always fall on the horizontal part of the current and voltage of the primary circuit. But if the primary impulse is rectangular and rather short (but it follows with a high porosity), so that it creates two close impulses in the secondary, then in the primary the two impulses from the secondary can fall into the area of the porosity. And in this area they can be caught and straightened, and their energy can be sent to the drive.: Smile3:

UR4III said: ↑

If a periodic triangular pulse is launched into the primary, then the counter-emf from the secondary will appear after 180 grams at the moment the next pulse appears. So your idea of alternating pulses is not feasible.

You talk all the time about periodic processes, sines and cosines. These arguments are not suitable for single pulses with a high duty cycle. If the pulses are short, and the distances between them are large, then talk about 180 grams is not necessary. The counter-emf will be somewhere between the first and second impulses. But not at all on impulse, as it would be if the impulses were periodic.

It would be interesting to hear your objections about the fact that the rule of turning 90 and 180 degrees only works for periodic functions subordinate to the derivatives of sine and cosine, and does not work for non-periodic functions.

AAbramovich, January 17, 2016
33

UR4III said: ↑

A person interested in general physics must know what the student knows.

Maybe I do not argue.: Smile3: But is the knowledge of science that was taught to the student correct? Now up to 70% of knowledge is not true, both in the field of energy (energy, laws of conservation and parity), and in the field of A. Einstein's theory of relativity and its consequences, including both physical and cosmogonic. This is a conversation in many forums. The theory of fear also inspires apprehension, for there are experiments and data indicating that it is not caused by the mass and is not proportional to it. In electrodynamics, given the infidelity of interpretations of energy conservation, as well as the experiments of Nikolayev, Sigalov and others, all is not smooth. So knowledge of a schoolboy, student, professor may simply be wrong. They need to be

checked when confronted with deviations from generally accepted methods. For example, on alternative technology, where they will not work or will not work completely.: Smile3:

The question of single primary pulses acting on the sinusoidal oscillations of the secondary circuit to maintain them arose in the CE scheme of the Karnaukhov-Kulabukhov generator. Since the primary impulses are short and go in some places, they, adding to the sinuoidal oscillation of the secondary circuit's LC circuit, surpassing them in power, do not create such drastic changes in the derivatives of the current in the secondary cell as if it already had no power. Therefore, the response from the change in current in the secondary to the primary winding is not as straightforward as you write. But I would like to find a way to calculate it, and make it so that it falls not between the primary winding impulses, but between them.: Smile3:

AAbramovich, January 17, 2016
34

7b63am said (a): ↑

Tell me, please, how to make these photos smaller?

Download the free image editor PicPick, in Russian edition. It allows you to make copies of selected areas of the screen, save them in raster files, as well as resize files in pixels and publish them on the Internet. The program also allows you to open, edit and publish any raster files. The program is simple and easy to get comfortable with. But it seems to me that everything is in order in these large photographs. This is better seen.
[Img]
I usually write text, including formulas, and create pictures in Word. Including, using drawing tools Word lay the inscriptions on the photos. After that I select the necessary fragments and take pictures from them with the PicPick program. After that, in this program I set the required size in pixels horizontally (the horizontal of the site is usually 900 -1100 pixels). I put on a full picture of 800-900 pixels, half half as much horizontally, and so on. Then save publish.

http://www.softportal.com/software-16869-picpick.html
http://soft-file.ru/picpick/ - in Russian

AAbramovich, January 17, 2016
35

AAbramovich said: ↑

It would be interesting to hear your objections about the fact that the rule of turning 90 and 180 degrees only works for periodic functions subordinate to the derivatives of sine and cosine, and does not work for non-periodic functions.

Well, it's simple. We give a single impulse to the primary. He will “return” to the primary through the “half period”, i.e. in the third quarter. How not to contrive, born in odd quarters and return to odd. Now imagine the "non-periodic" function as a collection of single pulses.

UR4III, January 18, 2016

AAbramovich said: ↑

But is the knowledge of science that was taught to the student correct? Now up to 70% of knowledge is not true, both in the field of energy (energy, laws of conservation and parity), and in the field of A. Einstein's theory of relativity and its consequences, including both physical and cosmogonic. This is a conversation in many forums. The theory of fear also inspires apprehension, for there are experiments and data indicating that it is not caused by the mass and is not proportional to it. In electrodynamics, given the infidelity of interpretations of energy conservation, as well as the experiments of Nikolayev, Sigalov and others, all is not smooth. So knowledge of a schoolboy, student, professor may simply be wrong. They need to be checked when confronted with deviations from generally accepted methods.

Here is the thing. "Physics is a set of mathematical models that allow predicting the results of experiments and designing technical devices." Those. physics comes from practice. You do not prove anything until you put your opponent's nose into a working device created with a violation of the model. Well, this is not the most interesting. There are models, the basic principles of which are not confirmed by practice, but the devices based on them work fine! An example is RADIO. Maxwell based his theory on the existence of the medium (ether) transmitting the interaction, and derived the existence of a bias current. The existence of neither one nor the other experience is not confirmed. The basic principles are replaced with props. But try to give a hint about it, you are stuck with a nose into the working devices.

Why such resistance to the new?

It's simple. The epoch of satisfying curiosity at its own expense is long gone. And where there is money - there is Pakhan with attendants who want to increase their material support. Smart enough. But any vyak against the wind - will turn into a kick in the ass. I remember the poem that Galileo's neighbor was Galileo not stupid: he knew that the Earth was spinning, but he had a family.

Regarding the very idea of getting free energy, I have my doubts. Purely philosophical. At least
that the term "energy" itself is undefined.

UR4III said: ↑

Regarding the very idea of getting free energy, I have my doubts. Purely philosophical. At least the fact that the term "energy" is not defined.

Replace the word energy with the word work, and it will become much clearer. Are there any devices capable of performing endless cyclic work - braking and acceleration? Yes, these are potential fields. Example, the movement of bodies in a gravitational potential field. That is, the potential field acts as a perpetual motion, but cyclical. Now let's consider a non-potential field, the work of braking and acceleration of which in the cycle is not equal to zero. Such a field is the same engine. But it can perform endless monotonous work, without demanding anything for itself, since that is its nature. If we estimate the cyclic potential energy of a single cycle of a non-potential field, then it is finite. But, since the number of cycles at the field is not limited, the cyclic potential energy of the non-potential field is infinity. And it does not decrease at the end of each cycle, but is restored. Moreover, the kinetic energy with each cycle increases. This energy or impulse can be transferred to other devices. Here you have an endless source of work that does not require any other work to be done for yourself, since it is not done by a potential field. That is, any field is a perpetual motion machine, both potential and non-potential. But not a potential field is a monotonous perpetual motion, but a potential field is only cyclical. This is the difference.

What is the fundamental difference between potential and non-potential fields? It consists in their symmetry of work. By breaking the symmetry of a potential field with its finite potential energy and finite monotonous

work, we thereby create a non-potential field with infinite potential energy and work.

If we apply all the above to the technology, we get what is called alternative technology, or devices with efficiency> 1. These devices really exist, since there are really not potential fields capable of producing endless monotonous work.

Unfortunately, physics mathematically investigated only potential fields. Since a mathematical study of non-potential fields instantly shows that the work in the cycle of such a field is not zero, and therefore the law of conservation of energy in such a field is not executed. As the law of conservation of momentum in the cycle of motion. But since the law of conservation of energy was a chip for modern physics and technology. That physicists did not allow themselves to investigate the work of a non-potential field. But technology did not allow themselves to use these fields as sources of endless monotonous work, which technology needs so much.

By the way, an interesting observation. Since potential energy stored by bodies in potential fields is considered fuel. That is the same energy stored in non-potential fields, as you see cyclically monotonously infinite. Therefore, by analogy, a non-potential field has an infinite supply of fuel. As a result, when working, he does not need, as a system operating in a potential field, to constantly receive fuel from external systems, while still throwing fuel waste into an external system. In this connection, it is erroneous to consider such systems operating with efficiency> 1 as non-fuel systems. In fact, these systems are fuel. Only possess the internal infinite stocks of fuel which are not decreasing in the course of work. Such is the paradox of these systems. In this connection, the concept of "fuel-free energy" is erroneous.

AAbramovich, January 18, 2016

UR4III said: ↑

Well, it's simple. We give a single impulse to the primary. He will “return” to the primary through the “half period”, i.e. in the third quarter. How not to contrive, born in odd quarters and return to odd. Now imagine the "non-periodic" function as a collection of single pulses.

How interesting!
Then a specific question, you, as a practice: the duration of a single pulse T = 10 seconds.
What will your "half-period" in seconds be equal to?

Last Edit: January 18, 2016
Wlad, 18 January 2016
39
UR4III
UR4III
Administrator

Difficult question, since only the duration of the impulse is given and its shape is absent. Any form can be decomposed into a family of harmonic functions and dance from them. I have never done this. Therefore, a simplified answer. Suppose the impulse is symmetric. Eds in the secondary housing is behind the primary current. When the current value does not change, there is no induced emf. When the current changes rapidly, the emf is maximum. Therefore, when the magnitude of the current in the pulse reaches its maximum. Eds will be zero. Those. the graph of the current change in the primary will be ahead of the current of the secondary for 5 seconds. A half period is 10 seconds.

UR4III, January 19, 2016