-7

Is super conductance restricted to an extremely low temperature, or can it be effectively replicated using some other technique? [closed]

power-supply

This post is hidden. It was automatically deleted 4 days ago by Community Bot.

Closed. This question is off-topic. It is not currently accepting answers.

This question does not appear to be about electronics design within the scope defined in the help center.

Closed 15 days ago.

This post was edited and submitted for review 14 days ago and failed to reopen the post:

> Original close reason(s) were not resolved

(Private feedback for you)

Edit question

A type of electrical amplifier is proposed in which only magnetism and it's analogous current exists for the most part. There is no voltage and no wattage (to speak of) in which electricity has to noticeably exhibit Ohms Law. Once connections are made to an outside appliance, voltage appears, because none of the junctions in and around the load are shorted with each other nor with ground. But all of the nodes of the power supply section of the circuit are shorted with each other. So there are only two nodes in the power supply, the ground node on one terminal of the sine wave generator and the common node among all of the inductors on the other terminal of the sine wave generator.

Self shorting all of the nodes (in common with each other) eliminates the effectiveness of utilizing

any diodes, capacitors, or spark gaps. Only inductors have any relevance in this type of circuit.

Since there is no electrical throughput except through the sine wave generator, mutual inductance has to be precisely tuned. And self inductance also has to be structured a certain way as shown below…

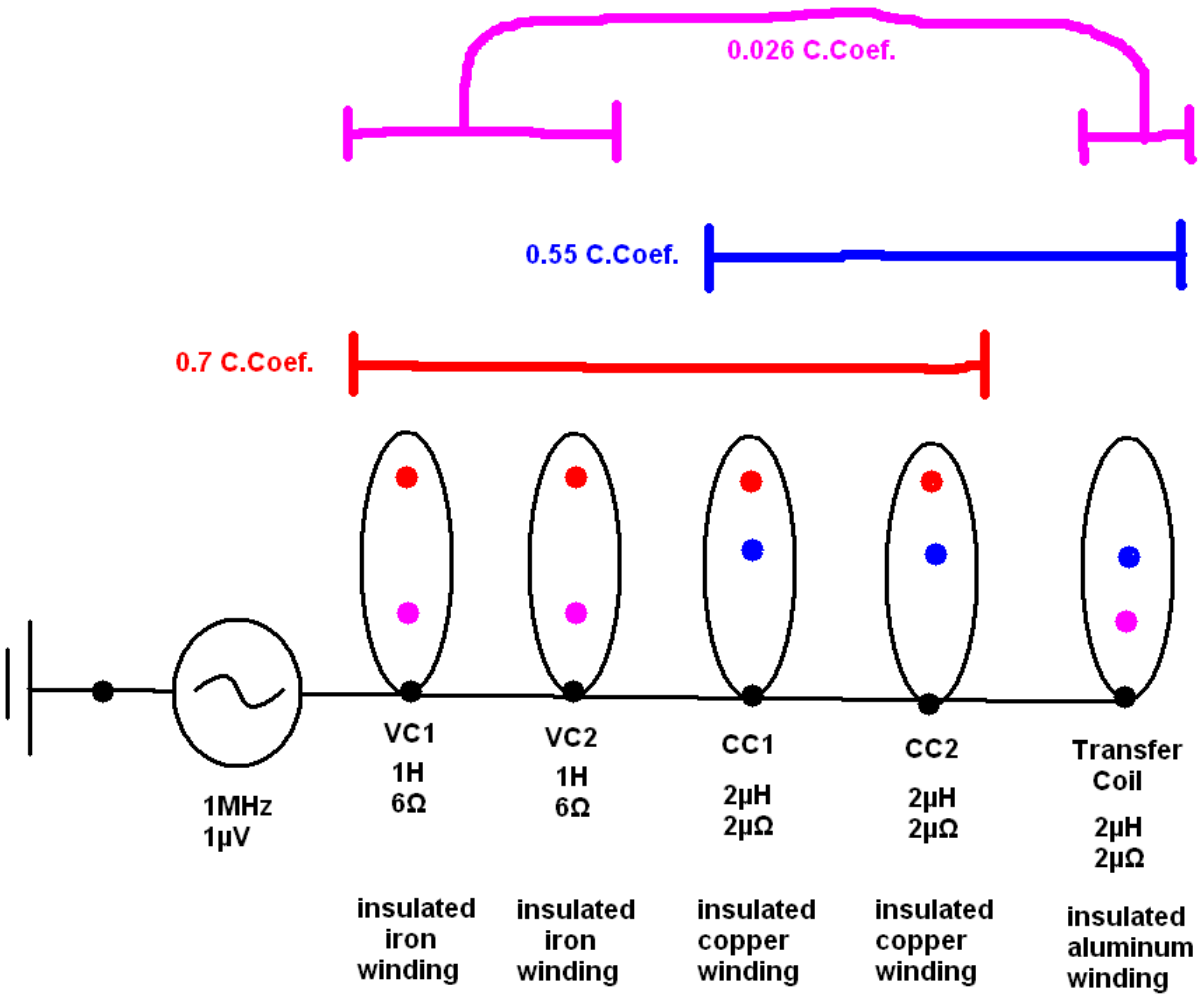
Given a pair of coils (#1), and another pair of coils (#2), and a single coil (#3), and the following magnetic couplings among them:

- Coupling #1 is between coils #1 and coils #2.
- Coupling #2 is between coils #1 and coil #3.
- Coupling #3 is between coils #2 and coil #3.
- Coupling #1 is greater than or equal to the golden ratio of 0.618… (e.g. 0.99).
- Coupling #2 is precisely the square root of the difference between unity and coupling #1: $\sqrt{(1 - 0.99)} = \sqrt{(0.01)} = 0.1$, or 10%
- Coupling #3 is precisely the cube of the difference between unity and coupling #1... ie, (1 - 0.99)^3 = (0.01)^3 = 0.000001, or 0.0001%.

What are the chances of effectively replicating super conductance (without altering temperature) by shorting out all of the nodes among all of these five coils and connect this common node to the output of a sine wave generator operating at 1 μV and a frequency of 1 MHz?

I am assuming that the simulator environment (of a Micro-Cap circuit from Spectrum-Soft) is both theoretical and logical to assume that anything is possible within that environment and limited to that environment with no guarantees outside of that environment making it highly theoretical - not necessarily probable, nor possible - in the concrete world, but only guaranteed in the world of the abstract mathematics involved.

In the physical world, it's conjectural to assume it's probability if coils #1 are made of iron, coils #2 are made of copper, and coil #3 is made of aluminum?


0.026 C.Coef.
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1MHz
1μV
VC1
1H
6Ω
VC2
1H
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CC1
2μH
2μΩ
CC2
2μH
2μΩ
Transfer
Coil
2μH
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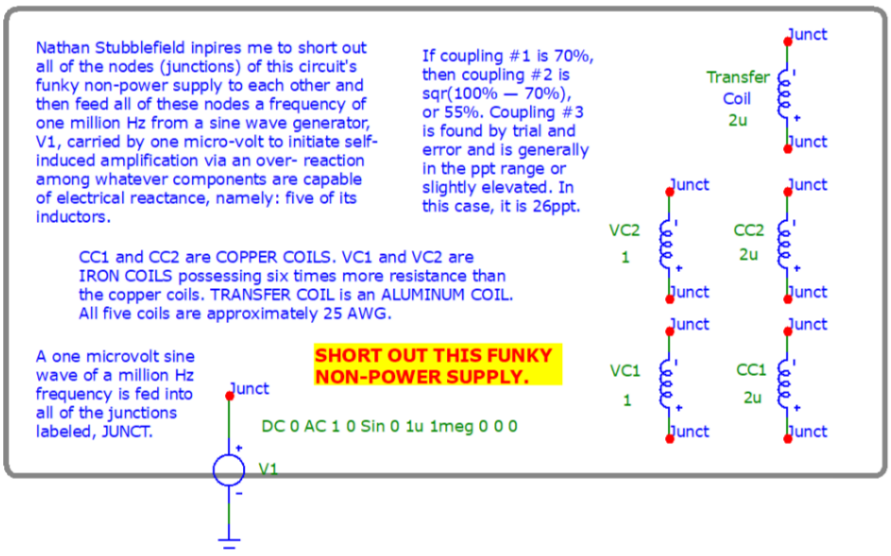
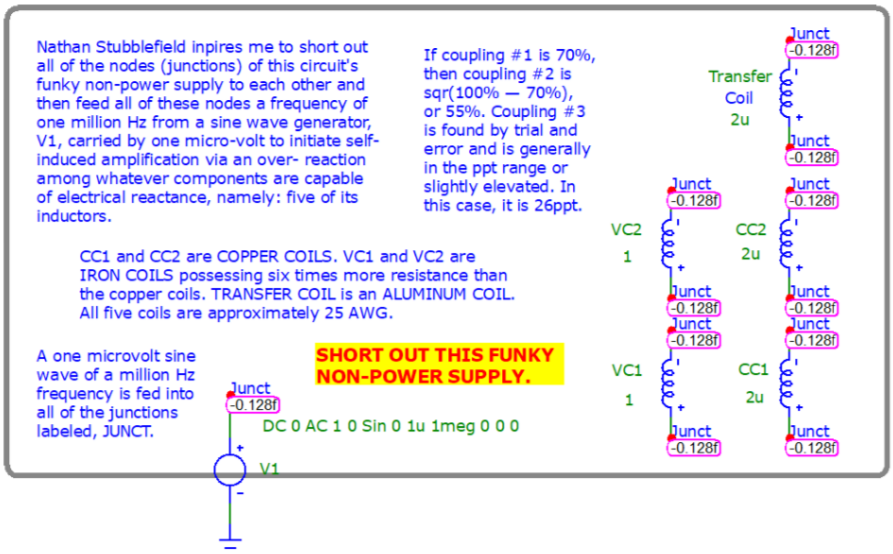
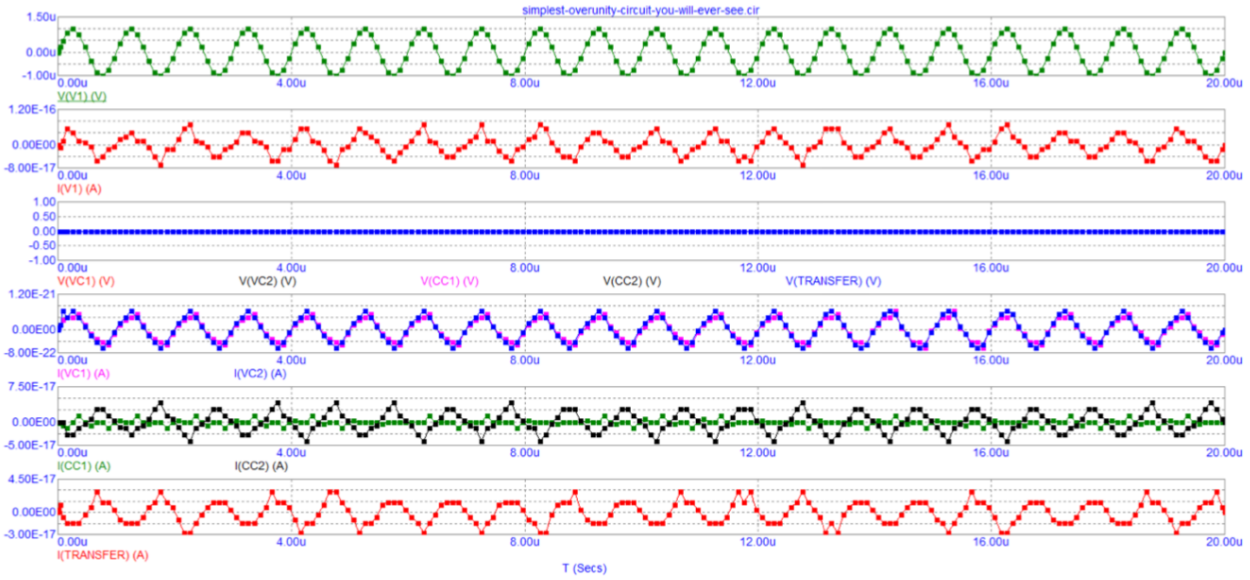


It's nodal voltages are...

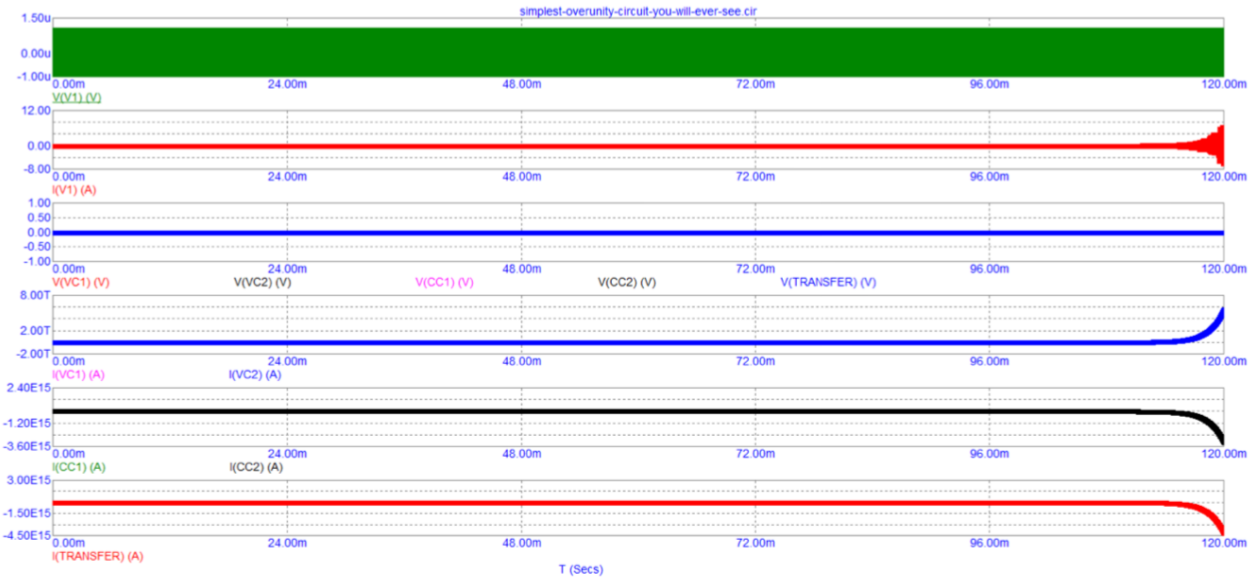


...versus its initial twenty micro-seconds...



Ten milli seconds...

And lastly, 120 milli seconds (my computer couldn't allow anything longer without problems)...



Since resistance merely governs voltage drop, any impedance of high resistance will foster our habitual tendency to solve a problem by increasing the voltage. This is known as the Ferranti Effect. On the other hand, a purely reactant impedance can, actually, overcome resistance and begin to exhibit characteristics analogous to superconductivity if the frequency of reactance is high enough to overcome resistance per unit time. Raising the frequency of a sine wave generator does not “cost” more energy. Nor does it defy physics’ conservation of energy. Yet, in this case, amplification of current occurs while voltage retains a zero status within the body of each inductor.

It is not the conservation of energy which is being defied, here. Instead, it is Michael Faraday’s Law of Induction which is given a restraint, a limitation, of jurisdiction. For, it is not always necessary to move a coil through a magnetic field in order to manifest current inside of that coil. Purely reactive impedance, devoid of resistive impedance, is a satisfactory replacement.

Frequency over time is equivalent to motion through space. Magnetic flux, or it’s analog, is rotating in both examples.

The amplitude of a voltage source is not the only option available for supplying an energy input. The frequency of a low voltage source is another, because frequency is a potential form of energy. This is why the conservation of energy has not been defied, because conservation includes both kinetic and potential forms of energy. And Michael Faraday’s Law of Induction has simply been expanded to include a more pervasive definition.

Share Edit Undelete Flag

Vinyasi
1 • 6

asked
Jan 5 at 17:56

edited
Jan 6 at 17:34

4 I'm voting to close this question because this is a physics question (so not strictly on-topic here), but not backed up by an actual understanding of superconductivity. All this reeks of pseudoscience and there's not much sense in answering anything but to point out that this is not how superconductivity works, at all. – **Marcus Müller** Jan 5 at 17:59

2 By the way, all this text is a physical nonsense parade. Seriously. None of this makes sense. In the first paragraph, you assume there's a perpetuum mobile. These things do not exist in this universe. – **Marcus Müller** Jan 5 at 18:00

Already there… physics.stackexchange.com/questions/687084/… – **Vinyasi** Jan 5 at 18:04 Delete

3 yes, just saw it. Not happy that they sent you here. – **Marcus Müller** Jan 5 at 18:05

Whether or not it is physical nonsense, it is logical deduction from what is theoretically possible. Don't make too much out of it…! – **Vinyasi** Jan 5 at 18:06 Delete

1 no, it's not logical deduction of what's theoretically possible. You're assuming something that's theoretically impossible and derive, badly I might add, from that. So, nothing to do here, really. – **Marcus Müller** Jan 5 at 18:07

Sorry, I just assumed that the simulator environment is both theoretical and logical to assume that anything is possible within that environment and limited to that environment with no guarantees outside of that environment making it highly theoretical - not necessarily probable, nor possible - in the concrete world, but only possible in the world of the abstract mathematics involved. – **Vinyasi** Jan 5 at 18:15 Delete

The simulator environment is a calculator of KCL and KVL. You cannot blindly assign physical meaning to a simulator when it clearly includes nonphysical items useful for *limited* modeling of circuits, including ideal VCVSs, negative impedances, etc. You have made no logical deduction regarding valid physics, much like my ideal VCVS with a 1 kohm load impedance driving a 1 milliohm load for free has no standing in valid physics either, even though it might be applicable in a small-signal model somewhere. – **nanofarad** Jan 5 at 18:34

2 Yes there is (as of 2021) room temperature superconductance. No, this is not it. – **user_1818839** Jan 5 at 18:35

Room temp with 267 GPa . Ha – **Tony Stewart EE75** Jan 5 at 19:11

Stubblefield's invention of wireless telephony by induction was not useful unless there is only 1 user, how does that inspire this nonsense? – **Tony Stewart EE75** Jan 5 at 19:12

1 @Vinyasi It is impossible to 'short' components in the way you describe in the physical world. Any small piece of copper will have at least nΩ's of resistance. A longer normal wire will have mΩ's of resistance. If you ever hope to build whatever you are simulating, then put in real physical values for direct shorts. – **Voltage Spike** ♦ Jan 9 at 1:32

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0 Answers

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