

Hey Milehigh,

You might have some fun with [this one...](#)

.99

IP: [ Logged ]

**Farrah Day**



Position: Full Member  
☆☆☆  
Posts: 100

**Re: Bi-toroid**

« Reply #1 on: 2010-10-02, 23:12:45 »

As P99 put the Thane Heins thread in at my request, I just wanted to nudge this thread back up. I'm quite surprised that some of you TPU boys are not looking at this a little closer.

The following link is a rexresearch equivalent tp P99s link above.

<http://www.rexresearch.com/heins/heins.htm>

This bi-toroid looks like it has possibilities.

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Farrah

It's what you learn after you think you know it all that really counts!

IP: [ Logged ]

**Room3327**

Position: Jr. Member  
☆☆  
Posts: 83

**Re: Bi-toroid**

« Reply #2 on: 2010-10-03, 19:16:09 »

Farrah, If you look at diagram 3 of the Bi-toroid none of the math makes any sense to me. By his own numbers he has 16.9 VA or watts going in the primary and 11.51 watts coming out both secondary's combined? But even aside from that the calculations don't make sense, assuming a 1:1:1 ratio of the windings he has 49.8 volts and .24 amps going into the primary with a 2.5 ohm winding. That tells me he should have about 20 amps peak going into the primary not .24 amps. OK is the primary current limited that is still  $49.8 \times .24 = 11.9$  watts going in the primary and if you say it is at a higher frequency then we are not talking 2.5 ohms DC resistance but a higher inductive impedance number. Still doesn't make sense, now look at the load on the first secondary coil 180 ohms which he is claiming is dropping 11.43 watts, but  $49.8$  volts divided by  $180$  ohms is  $.276$  amps  $\times 49.8$  volts is  $13.77$  watts? And the second secondary coil has a  $1$  ohm load on it this is a whopping  $49.8$  divided by  $1 = 49.8$  amps  $\times 49.8$  volts which =

2480 watts??? He is saying it is only .02 watts? It just doesn't look to me like anything other than another transformer and only about 60% efficient at that by his numbers. But I could be wrong.

IP: [ Logged ]

**Farrah Day**



Position: Full Member  
☆☆☆☆  
Posts: 100

**Re: Bi-toroid**

« **Reply #3 on:** 2010-10-03, 21:57:31 »

Got to say Room, this isn't my main field of interest and I've never looked too closely at it. I think it was just the fact that the idea of the secondary flux path seemed to make good sense to me.

You seem to have looked a little closer into it than myself, perhaps I'll find time to take a better look. It would not be too hard to knock one of these up to test, so perhaps that's what I need to do, as if it's anything like electrolyzers fitted to vehicles, the theory doesn't always seem to concur with the practical results.

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Farrah

It's what you learn after you think you know it all that really counts!

IP: [ Logged ]

**MileHigh**

Position: Sr. Member  
☆☆☆☆  
Posts: 431

**Re: Bi-toroid**

« **Reply #4 on:** 2010-10-17, 22:18:45 »

Well Poynt,

I am really late to the party and thanks for the link to that doc from several months back. I noticed that the latest Thane C. Heins clip was echoed on the other two forums so I thought that I would link it here also.

<http://www.youtube.com/watch?v=aVYiT4zK9Kc>

A preliminary comment relates to measurement errors associated with digital multimeters when they are at the extreme limit of their range. For example, the current he measures going into his primary is 0.003 amperes. It flickers to 0.002 sometimes. You are super inaccurate here.

The 0.003 ampere reading might be somewhere between 0.0035 and 0.0025 amperes. It's hard to be sure where the cutoffs are because you don't know the inner workings of the multimeter. No matter what there is a huge amount of

uncertainty in the measurement relative to the absolute measurement of the current as being "0.003" amperes. This could have a major impact on any potential over unity measurement.

Thane discusses power factor and I will just state a general comment. If any transformer is unloaded, then the primary current waveform will be 90 degrees out of phase with the voltage waveform for power factor of zero. In other words the unloaded transformer acts like an inductor. As you start to add a load to the transformer secondary the phase relationship changes and the power factor starts to move away from 90 degrees.

Thane says his power factor is stated as 0.34 or 70 degrees in the text annotation. Verbally he says it's 75 degrees. The inverse cosine of 0.34 is 70.12 degrees. I'm wondering how he measured the phase difference. **It's something that is hard to eyeball, and chances are the waveform does not line up with the graticule on his scope. I am assuming that he measured this with a ruler???** I am not sure here, are there better ways to do this? **It's a critical measurement because it affects his input power calculation.**

Note also that this is all sine-wave based, so there are no back-EMF spikes to worry about in this setup.

MileHigh

Last Edit: 2010-10-17, 22:41:26 by MileHigh

IP: [ Logged ]

**MileHigh**

Position: Sr.  
Member  
☆☆☆☆  
Posts: 431

**Re: Bi-toroid**

« Reply #5 on: 2010-10-22, 03:41:54 »

I just realized in my last posting I was linking to a junk pirate clip collector.

Here are the most recent three Thane C. Heins clips on his real YouTube channel:

<http://www.youtube.com/watch?v=sQq1-J8S0tc>

<http://www.youtube.com/watch?v=Eiu-dCe8bnA>

<http://www.youtube.com/watch?v=3AeWkNYjUNQ>

I am going to make a few generic comments on the architecture of Thaine's setup. I couldn't find a diagram but I assume those following the developments are familiar with the latest configuration.

I am going to call the inner flux path the "Figure8" and the outer flux path the "OuterO." Lets assume that the Figure8 orientation is horizontal. Therefore the primary coil will be vertically oriented. This is how you see it in most of his clips.

To keep things simple we will just talk about flux flowing in one direction, even though the whole system is AC-based and the flux is bidirectional.

When he energizes the primary coil we know that the flux will circulate through the Figure8. Assume the flux flows bottom to top through the primary coil. Therefore flux circulates counter-clockwise in the left half of the Figure8 and clockwise in the right half of the Figure8.

Assume the two secondary coils have the same number of turns and they have the identical value of load resistor connected to them.

The two secondary coils will also induce flux to flow through the OuterO. Here is where we run into a problem.

**Let's look at the right half of the Figure8.** On the right side the flux is flowing downwards. The right secondary coil gets current induced into it to drive the right load. This induced current creates flux in the opposite direction of the source flux. The source flux is flowing downwards, therefore the induced current creates flux that is flowing upwards. This induced-current-generated flux also induces flux in the OuterO that flows upwards. **Upwards flow in the right side OuterO corresponds to counter-clockwise flux flow.**

Exactly the opposite reaction happens on the left half of the Figure8:

**Let's look at the left half of the Figure8.** On the left side the flux is flowing downwards. The left secondary coil gets current induced into it to drive the left load. This induced current creates flux in the opposite direction of the source

flux. The source flux is flowing downwards, therefore the induced current creates flux that is flowing upwards. This induced-current-generated flux also induces flux in the OuterO that flows upwards. **Upwards flow in the left side of OuterO corresponds to clockwise flux flow.**

**So the OuterO is getting conflicting induced flux that cancels itself out. In other words, if the number of turns in the two secondary coils and the load resistors are perfectly balanced, then the OuterO does nothing because of the flux cancellation.**

**Therefore as a general statement, the OuterO flux ring is not serving any useful purpose. The setup would work just as well if you only had the Figure8 flux path with the three coils.**

In the next posting I can propose a test to see if my analysis is correct or not. It's quite hard to visualize this stuff so the test is absolutely necessary.

MileHigh

Last Edit: 2010-10-22, 05:35:46 by MileHigh

IP: [ Logged ]

**MileHigh**

Position: Sr.  
Member  
☆☆☆☆  
Posts: 431

**Re: Bi-toroid**

« **Reply #6 on:** 2010-10-22, 05:57:28 »

Okay, so now a test to see if my theory is correct or not.

The test is quite simple. You do the configuration described in the previous posting, with the same number of turns in the two secondary coils and matching load resistors.

I am not comfortable with the very low power levels that Thane works with. If that could be improved upon it would be good. As a suggestion if you had a big 12-volt transformer then you could drive the whole setup with 12 volts AC. If your turns ratio was 1:1 between the primary and the two secondaries then you should see 12 volts AC on the two secondaries. Then you could add some fairly low load resistors so that each resistor dissipates about two watts. So if you could get two 2-watt 60 or 70 ohm load resistors you would be in very good shape. Then you have real measurable power flowing through the setup and you are staying away from the dangerous mains power.

So all that you have to do now is wrap between 20 and 100 turns of fine wire around the OuterO that's away from the Figure8 setup. This is simply your "flux sensor" coil. Just connect your multimeter or scope probe to it and you should see a very feeble output voltage. **This would be telling you that almost no magnetic flux is flowing through the OuterO because of the flux cancellation problem as indicated in the previous posting.**

**If you see a very low-level AC voltage, you should be able to tweak the self-cancellation to make it disappear almost completely. The easiest way to do this would be to add or subtract one or two turns to one of the secondary coils. You should be able to tweak the flux self-cancellation so that the AC voltage almost completely disappears. No AC voltage on the flux sensor coil means no flux.**

**So what does this mean for any over unity with Thane's new configuration? Well, if you prove that the OuterO does not do anything of value**, then what are you left with? You are left with the Figure8 transformer setup. That's an ordinary vanilla transformer, and vanilla transformers are not over unity devices, they are under unity devices.

MileHigh

IP: [ Logged ]

**allcanadian**

Position: Jr.  
Member  
☆☆  
Posts: 75

**Re: Bi-toroid**

« **Reply #7 on:** 2010-10-22, 17:51:55 »

@milehigh

### **Quote**

So what does this mean for any over unity with Thane's new configuration? Well, if you prove that the OuterO does not do anything of value, then what are you left with? You are left with the Figure8 transformer setup. That's an ordinary vanilla transformer, and vanilla transformers are not over unity devices, they are under unity devices.

All the experienced and very credible engineers who have actually tested this technology would probably disagree with your theory and I do as well ---- next theory please.

Regards

AC

IP: [ Logged ]

**ION**

Position: Full  
Member  
☆☆☆  
Posts: 194

It's turtles all the  
way down

**Re: Bi-toroid**

« Reply #8 on: 2010-10-22, 18:35:37 »

**When you drive a transformer hard into saturation, you waste a lot of power heating the core and the primary rather than transferring power to the load.**

Thane admits burning up a hefty transformer overdriving that primary coil that he wound with fine wire in an effort to raise the impedance. **Where did all that power go?** Certainly not into the light bulb. His output is ridiculously low for the amount of power he is pumping into the primary.

**He claims it is all reactive. I doubt that or he would not have burned up the driving transformer.**

**Current input rises rapidly when you approach saturation, loading on the secondary backs you off this part of the BH curve.**

**He sees input power drop a bit when he connects the load. This is normal for a saturated transformer, as the load takes the transformer out of saturation a bit.**

Most transformers that must handle a wide range of loading are designed with enough magnetic headroom so the idle current is low enough to keep the transformer out of saturation during light loads. This is a variable duty transformer.

Not so for specially designed transformers that are not meant to run unloaded. This type of transformer has lower magnetic headroom but typically never sees a "no load" or "light load" condition. Therefore it can use a bit less copper and iron for the same kVA transfer. This is a fixed duty transformer, designed that way for economy of manufacture.

Yes I actually do the tests, have hundreds of transformers all sizes from milliwatt

to high kVA. worked also as an engineering consultant to a transformer manufacturer.

Sorry, IMHO no FE here, just misinterpretation of data and effects.

Send Thane a donation if you really believe in his work. He seems like an honest fellow.

Next Theory?...I don't have a theory, just lots of years working around transformers and power devices, driving them in and out of saturation, measuring DC unbalance effects on cores, driving inductive loads with solid state power control devices etc. etc. When you do this for your livelihood as part of a small company, you can't afford to make this kind of error because no one is "funding" you.

Last Edit: 2010-10-22, 20:53:41 by ION

IP: [ Logged ]

**MileHigh**

Position: Sr.  
Member  
☆☆☆☆  
Posts: 431

**Re: Bi-toroid**

« Reply #9 on: 2010-10-22, 19:42:31 »

**Quote from: allcanadian on 2010-10-22, 17:51:55**

@milehigh

All the experienced and very credible engineers who have actually tested this technology would probably disagree with your theory and I do as well ---- next theory please.

Regards  
AC

I am not really following the replications but I probably will for a while starting now. I am curious to see if anybody will do the test. I won't be holding my breath.

I am under the impression that this is a brand new configuration that Thaine has developed so I doubt any of the engineers at the University of Ottawa have had a chance to look at it.

You're being dismissive of my theory and I am rusty with this stuff but I think what I said is sound. Thaine seems to think that the outer flux ring will prevent

the load from being seen by the power source driving the primary coil. To me that doesn't jive.

You disagree with me, so what are your reasons? Do you have a theory for how it operates?

Going back to Thaine's overall proposition which I believe is that he claims that he can turn purely reactive power (power factor = 0) into real power going into a load. The power companies don't want that. They don't want their big customers storing and then pushing energy back into the grid. I am guessing it causes their distribution transformers to get hot circulating current for no reason, which reduces their real capacity to output power. Large industrial companies that are running lots of big motors and stuff like that have to install devices that correct their power factor and bring it much closer to 1. That's why big transformers are rated in volt-amperes output and not in watts.

A little factoid is that standard computer switching power supplies are also problematic for the power companies. They also have a weird power factor because they typically only draw power at the peaks of the AC sine wave.

MileHigh

IP: [ Logged ]

**ramset**

Position: Jr.  
Member  
☆☆  
Posts: 73

**Re: Bi-toroid**

« **Reply #10 on:** 2010-10-22, 21:53:04 »

ion

Have you looked at the most recent independent test data?

I would have to be very ignorant not to respect your Knowledge,I just want to know that you are up to speed on Than's latest INDEPENDENT test Data.

This "Burning up " issue is this recently??

Nobody is really looking to waste time here.

Thank you

Chet

IP: [ Logged ]

<p><b><u>ramset</u></b></p> <p>Position: Jr. Member    Posts: 73</p>	<p><b><u>Re: Bi-toroid</u></b>  « Reply #11 on: 2010-10-22, 22:09:06 »</p> <p>poynt</p> <p>Can you post the latest data here?</p> <p>I sent it to broli to post at OU down load section.</p> <p>Can you just transfer that to here?</p> <p>Chet</p>
<p><b>IP: [ Logged ]</b></p>	
<p><b><u>allcanadian</u></b></p> <p>Position: Jr. Member    Posts: 75</p>	<p><b><u>Re: Bi-toroid</u></b>  « Reply #12 on: 2010-10-22, 22:12:54 »</p> <p>@Ion</p> <p>Quote</p> <p>Next Theory?....I don't have a theory, just lots of years working around transformers and power devices, driving them in and out of saturation, measuring DC unbalance effects on cores, driving inductive loads with solid state power control devices etc. etc. When you do this for your livelihood as part of a small company, you can't afford to make this kind of error because no one is "funding" you.</p> <p>I know a great deal of people in the field of electrical engineering, power engineering, instrumentation etc ... but not one of them can tell me what a magnetic or electric field are fundamentally, not one. Personally I find this very odd that persons with a combined experience of a few hunderd years or more cannot tell me "what" it is exactly that they have been working with all these years --- Do you find this odd?. I do not mean to judge you or anyone but at some point I personally came to the understanding that I will never be an expert at anything, in any sense of the word, until I know what I am dealing with. Once I came to this understanding I can honestly say everything became much easier, I had many options I never would have considered, I understand many new technologies almost immediately.</p> <p>The real proof of understand also has to do with your paycheck, people do pay anyone tens of millions of dollars or more because they understand conventional technology, they get paid that much because of what they understand that everyone else does not. They get paid because they have "improved" technology in a way nobody had ever considered and this improvement has a great deal of value and hopefully it will make peoples lives better.</p> <p>Regards AC</p>

IP: [ Logged ]