

Параводородът е с най-ниска енергийна стойност. Ортоводород е два пъти по-висок. Има отношение йонната връзка (да проверя).

През електростатични полета с високо напрежение параводородът може да се трансформира към по-високи енергийни нива, дори до едноатомен водород. Bob Boyce 27 years part 6 youtube.

Клетката- не трябва да се разглежда като капацитет, а като high impedance load. (да потвърдя)

- посребреният меден кабел има малък собствен капацитет; - всъщност тефлонът има много добро топлоотдаване (!)

- Скалар (стоящи вълни от надлъжна енергия) - скаларен резонанс. in nature, and can be induced by the ultrafast pulsing of a potential (minus the current flow that normally follows) through properly wound inductors. This can be further enhanced if done within the f of a HV dipole. - т.е. намотките да са в резонанс- токът и напрежението да са дефазирани ?

*All of this technical data about resonance is useless. The cells are not run in EM resonance, they are run in scalar (scalar is standing waves of longitudinal energy) resonance. So this whole thread is way off track. You cannot view longitudinal energy on a scope. A scope only allows you to see what is going on with the triggering energy that encourages the longitudinal energy to flow.*

**superluminal (FTL = Faster Than Light) longitudinal energy) - надлъжната енергия е мюнеутрино! (три вида неутрино). Радиалната енергия на Тесла е мюнеутринен ток на практика. Мюнеутринния ток не може да роди електронен ток (но влияе).**

**Бифилярка- индукция няма съпротивление (времето??) - стояща вълна. Слънцето като катод, който излъчва електрони. Земята е отрицателно заредена, а космоса положително. Слънце-земя 0,25 мкф. Отрицателният заряд винаги се върти.**

**Отворена и затворена верига. Теслов траф завършва с топче.**

Гама лучите се превръщат в електрон-позитрон двойка. Има и обратния процес. Масата не е нищо друго освен една стояща вълна, която като се освободи се превръща в обикновена електромагнитна вълна.

Два подхода- бифилярка (стояща вълна) и високо напрежение (прави потенциална разлика).

Трети подход- много стръмни импулси. 1 волт амплитуда. Порядък на мегахерци. За да постигне напрежението скоростта на светлината или по-голямо.

Аниhilация - означава унищожение- материята се превръща масата в електромагнитна вълна.

Катализатор- разрушител.

Na wsqka masa otgowaq zarqd.

Na wsqka masa otgowaŕq magnetizum, no magnetizum ne otgowaŕq na wsqka amsa.  
Toplina ot toplo kum studeno moje, no obratno ne moje (wtori zakon na termodinamikata).

При стояща вълна се събират амплитудите.

Пространствена интерференция- много тегава в електрическа верига. В ел. верига не може да се получи.

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Bob,

I just want to thank you for all the work you have done in this field of study and say that I appreciate the patients and dedication you have shown through the years. I've spent the last couple of months digging through all of the posts you have made in the last several years and must say that I've learned plenty. From the start of my research, I told myself that I would not be one to pester you with questions because you have (and continue) to answer the same questions over and over so many times. Having said that, I do have a question that has been plaguing me for some time (and maybe it has been asked and I missed it, so I apologize in advance).

Your PWM3 circuit generates 3 different frequencies (~10k, ~20k, and ~40k). When you say that you match the impedance of the cell stack with the toroid (**I assume you match the impedance of the secondary with the cell stack-ne e taka!!!**), which frequency do you match at? My guess is that you match at the lowest frequency, 10k, but I have no idea as to why that would be.

Thank you for any info you can provide.  
Heath

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OK, I'm going to put some thoughts down for criticisms here.

Bob in the past wrote that he started with a single frequency to get the resonant reaction. He found that by adding a second higher frequency and then a third higher frequency, additional gain was achieved. Bob is also saying that one of the secrets lies in impedance matching. A parallel LC circuit resonates when their reactance are equivalent ( $X_C = X_L$ ). I'm guessing that the cell stack acts mostly as a capacitor (electrolyte is added to bring the real portion of the impedance down (AKA DC resistance) until it flows a desired current) and the transformer is acting as an inductor (which also has some DC resistance due to wire resistance). So by using the reactance equations and determining the capacitance of the cell, one could derive the inductance a transformer secondary would need (at least it seems like a good starting point).

**$X_C = 1 / (2 * \pi * f * C)$  (trqbwa da e okolo 43 kHz ?)**  
 **$X_L = 2 * \pi * f * L$**

Obviously, these two terms can only be equal at one frequency since  $X_L$  gets larger with freq. and  $X_C$  gets smaller. So it seems like based on Bobs previous posts, 10KHZ is the place to match the impedance.

I've seen other posts referring to this thought process in the past, but don't think anyone ever posted results. Maybe I'm thinking too conventionally here, but I'm just looking for a starting point and I fully expect plenty of experimentation will be required, but on the same token I don't want to re-invent the wheel.

Heath

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I'm sorry, I didn't catch the frequency question before. The primary target is near 43 Khz, however depending on actual plate size and spacing, this can vary as much as several Khz. My early transformers were laminated iron, which were much less efficient at these frequencies. The addition of harmonically related lower frequencies does add to the overall effect, much more so than mixing 2 or more signals of the same frequency slightly out of phase. The complex blend of rich harmonics yields so much more energy to harvest.

When working out what you need for a core, you have to consider the effect of a steady state DC current. A typical RF core will saturate or come too close to saturation under these conditions.

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<http://ouppower.com/phpBB2/viewtopic.php?t=1419&postdays=0&postorder=asc&start=30&sid=f59ae7a58b85edbd40444f206b769cbd>

Very similar to a block diagram of the PWM3B and PWM3C units. Again, I think you may have missed the point. Even though the inductor you show is physically 3 dimensions in shape, when driven by a single winding, even with combined waveforms, it has a very difficult time interacting with its surroundings in a 3 dimensional manner. This is what causes such limited interaction with its environment.

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**Yes, the ratio is directly related to primary voltage vs the cell stack bias supply potential.** Typical rectified and filtered 120 VAC comes out at about 160 VDC. Desired drive is calculated at about 25% of bias potential, so 25% of 160 VDC is 40 volts. If applied drive voltage is about 13.8 VDC, then the ratio IS about 2.9:1 secondary to primary.

**But, this is only a rough guesstimate. This guesstimate is based on the typical 6" X 6" plate series cell, that has the right number of cells to match the bias potential (about 1.5 volts per cell), AND the cell plates have been properly prepared, cleansed, and conditioned.**

I recommend never to wind the toroid first, as measurement of actual cell operating parameters should be done after cell preparation, cleansing, and conditioning is finished, to determine if cell stack impedance is within the normal range for that design. Fine tuning of the toroid (by adjusting primary turns count prior to winding) to the final cell impedance is a little hard to do if the toroid is already wound ;-)

Bob

#660

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No, do not reduce the cell count, as that will further lower overall cell stack impedance, and lower the overall voltage that must be used. You can just fill all of the cells to a lower level to simulate the same surface area as smaller plates.

The design, as listed in D9.pdf, must be constructed with the specified number of cells, and operated at the specified load impedance (cell size) and specified voltage, or it will not work as designed. Everyone kept asking for a repeatable design that did not require a lot of calculations and guesswork. It took me a couple of years of research to come up with a "cookie cutter" type of system that could be repeated. Any deviation from that exacting design specification will mean that you may or may not be able to get it working with some tweaking here and there.

The main issue at hand that determines **maximum plate size is the maximum power capacity of the 6.5" toroid**, and that it is designed to drive a specific load impedance range with the indicated windings. There is no larger toroid available with the correct specifications, so our maximum power limit is what it is.

With cell count as a constant... As plate size is increased, load impedance decreases and power requirement increases. **As plate size is decreased, load impedance increases and power requirement decreases.**

When cell count is varied, it changes the MPP (Maximum Power Point), which is the point at which load impedance matches up with applied potential to produce the maximum power output from a given input to the toroidal transformer. So while there is a limited amount of adjustability, if you vary the cell count too much, you will soon exceed the amount of leeway built into the system. This means a redesign will be required to match up the system.

Bob  
#1491

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All of this technical data about resonance is useless. **The cells are not run in EM resonance, they are run in scalar (scalar is standing waves of longitudinal energy) resonance.** So this whole thread is way off track. You cannot view longitudinal energy on a scope. A scope only allows you to see what is going on with the triggering energy that encourages the longitudinal energy to flow.

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**The resonance reaction requires a certain DC potential to neutralize charges that would cause the ions to recombine.** Even though you may be splitting water with the

resonance drive, if the charges are not neutralized, the result is little or no gas actually evolves from solution. By controlling the DC potential, you can dial in how much of the split water recombines, and how much evolves from solution. **Another method is to alter the phase or frequency of the tertiary frequency so that it reduces the amount of interference produced within the core of the toroid.** The primary and secondary frequencies should not be changed, unless they need tweaking for maximum production.

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If your still confused of where to start, as chemelec said, it can be very technical and complicated if you want to work every detail into the picture.

Here is a much easier way to get results without all the mumbo jumbo and can get you started at least.

If your looking for "Bob" series voltage drop of say 2V for convince. You have a complete cell and it is broken in, meaning you have taken it past the golden brownish crud stage. That is the electrolysis of the nickel out of the anode and onto the cathode. If you want it electroplated, leave the brown scum in and keep the fluid mixed, use straight LV DC and never switch polarity. . If you want to experiment with out the nickel, allowing for pulsed dc in both directions, then use LV AC and remove the "brown scum" (you can save the water and put it back in if you like to "re-nickel" the cathode).

After break in..

Start with fresh tap water, no additives. Check resistance, take note. Hook up the 12V supply you intend on powering it with, this is important, as it will limit current draw. Get a reading of amps and voltage. Using ohms law, calculate the resistance. This should be far lower then static measurement as the water is forced to realign it's electrical domains in order to conduct, the higher voltage the lower the resistance, the greater the electromagnetic polar alignment.

Got a starting point now. Each space of water in the cell is like a resister. divide the total resistance by number of cells. Now you can predict what the amperage will be for a particular voltage. It will all depend on the **surface area of electrodes, spacing, and the resistance of the water.**

Now you have to decide how much power you want to use, or expend. You can always over power something to get more out of it, but it may not be as efficient. But you may not have a great big cell to get best efficiency, and have a little more power then needed for the size of cell you have made. If you got the extra power, use it. If your looking for 2V per cell, then multiply number of cells times voltage you want to get. Say 10 cells X 2V each, you want 20v to drive it. Back to the total resistance, it is what dictates the amperage needed to sustain 20v. Say we got a cell with overall resistance under load is 50 ohms. Then  $20/50=.4$  amps (small cell), If it's only 5 ohms, then  $20/5=4$  amps. At this point you want to decide to lower resistance with additives, or increase voltage. Unless you have a 70 plate cell with lots of surface area to lower resistance, you might as well use what energy you have available.

lets say you have a 20 amp single driver.  $20 \times 13.5V = 270$  watts max.

**$W=IXIXR \ 270/5=IXI \ (270/5 = 54) \ 54=7.53 \ (\text{корен от } 54=7.34) \ \text{amps in secondary. } ||| \ \rightarrow 7.53 \times 5=36.5V \ 7.53 * 5(\text{ома})=36.5\text{волта (нужно напрежение при 5 ома за достигане на 7 ампера)}$**

$$W=I^2 \cdot R$$

Wire gauge has to be accounted for to handle amperage. Voltage can be raised to increase wattage, but amperage can't.

[http://www.powerstream.com/Wire\\_Size.htm](http://www.powerstream.com/Wire_Size.htm)

<http://www.uwm.edu/People/msw/WireTable/index.html>

#22 rated for 7 amps max and that might be a little hot. Give room for improvement #20 for 11 amps would be better.

Continuing with the 5 ohm cell ...

$36.5/13.5=2.7:1$  ratio secondary to primary.

Primary has to handle 20 amps , thats wire size #16 .

NO mater what type of transformer core you use, these wire sizes need to be used.

**Metal core, lower frequency, more wire, greater resistance matching at low frequencies.**

**ferrite core, higher frequencies, less wire, greater resistance matching at higher frequencies.**

**You can pump higher frequencies into a metal core, better then you can pump low frequencies into a ferrite core.**

I don't know enough about ferrite cores to go much further then that as to power handling capacity. I have some coming to experiment with (Meyer size) which is a higher voltage, smaller electrode design, not suitable for high amperages.

Most people confuse Meyers electronics with large cell designs. Only Meyer's first designs were large cells, then he went high voltage with smaller cell and higher resistance to hold the high voltage.

Lets say we take a MOT (microwave oven transformer) free from dump. It is easy to cut out the wilds and take it apart with a grinder. Three of the ones I have have a #16 winding. .65 ohms already.

I count 130 turns, and at 2.7:1 to get 36V = 351turns #20

There's a good easy cheap start.

Lightwave.

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One reason the 3 phase toroidal transformers are different is that the wire guage and the primaries/secondary turns ratio will have to be calculated for the target cell stack voltage/current vs the target

drive voltage/current. Cell stack voltage is determined by the number of cells in the cell stack, and cell stack current is determined by the cell surface area/cell quality.

I will cleanse and condition a cell stack for days at brute force DC before measuring and determining the optimum operational specifications for that cell stack. Then I will wind the transformer that will drive that cell stack.

You can't just wind a one-fits-all and compensate with variable inductors and/or capacitors. Cell stacks can vary so much in number of cells, plate size, actual cell spacing, ect. Top that off with the unique manner in which this transformer is operated and you will see that it is more complex than a simple AC step up or step down transformer. There are DC, pulsed DC, and AC components, all mixed in a common core to account for.

!!  
**One thing that few have noticed is that I do not use regular magnet wire in my windings. I use mil-spec silver plated copper wire that is teflon insulated. Those with RF experience will probably know why.**  
!!

Bob

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"All of the tuning characteristics of the resonance drive system are designed to work with a 100 cell box. *If you change the plate surface area by changing plate size, it will affect impedance,* thus the design as spec'd will not work. *If you reduce cell count, it will affect voltage, and the design as spec'd will not work.*"  
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Keith,

I think you may need to study a bit more about coding, specifically old-school tricks that use interrupts to modify timing. With this method you can get way better than 1/10 Hz resolution if you really want it.

The waveform you propose... Interesting concept, if you actually accept that is how this works. I seriously doubt that Meyer even really understood what he had discovered, and was doing his best at trying to figure it out and explain it. He was partially correct, and that part is that water must be entrained by potential in order to make it receptive to disassociation energy. I will attempt to explain this as simple as I can. I have to simplify this in order to keep it short, as it is a very complex interation of energies that takes place.

**A HV potential being pulsed through inductors can cause interactions with the dominant energy, within near-field, to take place.** *If these*

pulses modulate the near-field energy at the right frequency, entrained water that is directly connected to these inductors becomes receptive to absorbing this modulated near-field energy. The energy is absorbed by the water, creating an imbalance in the near-field energy. "Zero point" energy flows in to restore this balance. So while the unit does not run directly on "zero point" energy, the energy that it does draw from the local environment is constantly being replenished from the "zero point".

The reason I quote "zero point" is because many are at odds to explain this energy, and the names used to describe it. I don't even want to enter into debates about this, as I really don't care what it is called. All that matters is that we can tap into it and make use of it.

Now, as to why broad resonance is not desirable. If the Q of your resonant circuit is low, the amplitude is low over a wider range of frequency. As you increase the Q of a resonant circuit, you narrow the resonant frequency range and increase the amplitude. If you expect to get very high amplitude, you must have a very high Q. High energy transfer can only take place at very high Q.

Bob

--- In [WorkingWatercar@yahoogle.com](mailto:WorkingWatercar@yahoogle.com), Keith wrote:

- > OK, so a PIC (choke,gag,cough) wouldn't be appropriate :-).
- > So I could bypass the clock divider and use the full 20Mhz
- > for the timer-clock, and at 40Khz I'll get +/- 80hz
- > resolution--(still 0.2%).
- >
- > But it seems that the resonance window I've seen
- > in my crude experiments is wider than that. But then, I still
- > haven't built a decent txfmr yet, so I've got lots of learning
- > to do...
- >
- > Actually this begs a question I've been mulling for some time...
- > I do lots of stepper control profiles where my DMA auto-steps
- > through acceleration profiles of frequencies to drive a
- > motor.
- >
- > Have you ever experimented with gating an accelerated-frequency?
- > For instance step-through a pulse acceleration profile repeatedly?
- > e.g.
- > \_\_\_\_\_
- > |\_| |\_\_\_\_\_| |\_\_\_\_\_| |\_\_\_\_\_| |\_\_\_\_\_| |\_| |\_| |\_|
- >
- > GATE/REPEAT
- >
- > It seems if the what Meyer said about creating the stretching-
- > effect of the molecules is correct, doing the above could
- > contribute significantly. Mind you this is a crude example,
- > and one would design a profile matched to a target frequency,
- > say, incrementally modulating from 10Khz to 10.2Khz for
- > each gated pulse train?

>  
> Keith

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Will fill in below

--- In [WorkingWatercar@yahoogroups.com](mailto:WorkingWatercar@yahoogroups.com), "Bernie" wrote:  
> Actually Patrick, Bob himself has said that he thinks his cell  
> draws in esoteric energy. I was simply postulating an idea that  
> might be useful in the electrolysis realm as well. I'm always  
> looking for techniques to simplify the processes necessary for  
> success.  
>

**It's not really the cell drawing in the energy, though it does act as an active component of the system and will capture a small amount on its own. But the majority of the energy is tapped in the inductor and channeled to the cells.**

>  
> Incidentally, his electronics apparently work well with a JC,  
> according to one experimenter.  
>

As well it should if one can properly match impedances, and all other conditions are right. This technology can be applied in many ways, some much more efficient than others.

Bob

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The series cell design in and of itself can deliver a gain without the toroidal transformer. However, the gain is relatively low as compared to what a resonance drive can deliver. If all you need is twice Faraday equivalent efficiency, then yes, you can do away with the electronics and inductance and run it from DC alone.

The resonance drive is more complex in that it is a blend of technologies. **The frequencies are required for driving the inductors, AND are important for steering the modulation of the environmental energy such that it will be readily absorbed by the water molecules.**

Bob

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**The box is not a capacitor of a resonant LC circuit, it is a load. Almost everyone falls into that same LC trap and it leads them to making the wrong assumptions. Only ultrapure water is used to make a water dielectric capacitor.**

Bob

--- In [WorkingWatercar@yahoo.com](mailto:WorkingWatercar@yahoo.com), "mike2160" wrote:

> has anyone attempted to match the box to the core, that is to  
> say build a typical resonance circuit. Where as the box acts  
> as a capacitor and the core is of course an inductor, then the  
> reactivevess of the two are matched? this would mean tuning  
> the two to a specific frequency. As the frequency driven to a  
> capacitor is risen, it's resistance decreases, that figure is  
> inversley proportional to that of an inductor which increaces  
> with a rise in frequency. At some point at a given frequency  
> these two values equal thus givening a resonance circut for a  
> given frequency. see wikipedia; reactance, lc circuit, also  
> <http://hyperphysics.phy-astr.gsu.edu/hbase/electric/accircon.html#c1>

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Praveen, I see you keep repeating this. I don't give a damned about the marketing side of things, I am a researcher. I design my systems based on performance, not marketing considerations. To be blatently honest, buyers will abuse products - no matter how much care has gone into design and / or construction.

And as far as heat is concerned, the simple matter is... *unless each and every pocket of electrolyte in each and every cell is fully electrically isolated from one another at all times that power is applied, then there will be heating of the liquid from  $I^2R$  losses in leakage current flows. On top of this, even if there are zero leakage current flows, there will always be some electrolyte heating from the  $I^2R$  losses within each cell.* This is an undeniable fact of physics. The solution is to minimize these losses, and I keep getting misquoted on how this is done.

There are multiple ways of dealing with the heating issue. These first 3 examples are common ploys of the booster marketeers...

The single most common method, which most shysters use, is to ignore the problem and hope nobody notices until it is too late. Once the device melts down or malfunctions, then it is usually blamed on some installation or operational error on the part of the end user. This is to try to shift the blame away from the flawed design that is the real culprit.

The second most common methods, which some shysters try to use, is heat sinking or some other method of adding a cooling system. If you see a booster being marketed that requires a cooling system, LOOK OUT! It is a sure-fire way of spotting a device that is soo poorly efficient that they have had to find a way to get rid of the wasted energy.

The third is as you are trying to do, adding a method of controlling current, which controls the amount of generated heat. This is the sign of someone that recognizes the inherent limitations or flaws in

a design, and is trying to limit the losses in a more energy efficient manner. While not the best approach, it is at least a good start.

Now, on to the real meat of the situation...

As mentioned before, the best solution is a true series cell design that has zero leakage current, electrolyte conductivity adjusted to peak of conduction (lowest  $I \cdot R$  losses), and the cell count set to exactly match the supply voltage at the desired per-cell voltage. When this is not possible due to space or cost constraints, then alternatives are sought.

Once such alternative was a relatively low cost, yet simple true series cell design that I emailed to Tero, which you may have seen referred to as the "Tero Cell" since it was Tero that wrote a report on it afterwards. I found my original blueprint drawings for that design, and I will be posting them soon. There were several variants, but Tero chose to build only one of them. The blueprints also contain a water fill manifold that Tero never included in the unit he built.

A variant of this design, and also used in the "Tero Cell", was the end result of Tero seeking a way to balance out water levels. This is to take a true series cell design and intentionally add "leakage points" where the electrolyte can level out. While making things easier, it can have a large impact on overall efficiency and waste heat generation. Short term operation, one may not even notice the excess heat, but run it long enough and it will get hot. So they tend to lower the electrolyte concentration, which reduces leakage, but raises  $I \cdot R$  losses overall.

Another alternative is the Smack Booster. While not a true series cell, Eletrik\_1 used a clever stepped-gap design, that when coupled with a lower than normal electrolyte concentration, reduced leakage current losses. However, if not built and operated exactly as Eletrik\_1 specifies, it can cause excessive heating of the electrolyte solution. It relies upon the higher  $I \cdot R$  losses of a more dilute electrolyte mix, and the increased spacing at key points, to minimize leakage current heating losses. The tradeoff is higher  $I \cdot R$  losses in the desired current flow paths. This has been partially offset by closer cell spacing in the desired cells, which concentrates most operational current in those locations.

So you see Praveen, it is often a trade-off between complexity, cost, access to fabrication equipment, skill, and I'm sure many other factors, that will often lead an individual to choose what they will build or buy. Regardless, there is one undeniable fact. To mitigate losses, one must design and operate with minimizing losses in mind.

Nobody can idiot-proof anything like this, as it takes some basic knowledge and skills even to just install, operate, or maintain these devices.

Now back to me being mis-quoted so often.....

**In my designs, once cleansing and conditioning are finished, operational electrolyte concentration is best run and maintained between + and - 2% of peak conductivity! It is never to be adjusted to control current in my designs! That is done by adjusting applied potential (voltage)! Use an adjustable autotransformer (variac) if required, but do not operate the cells at too much voltage per cell, and do not allow the electrolyte to become too high or too low in concentration. These parameters are VERY important if one wishes to keep  $I \cdot R$  losses under control in a true series cell. Please remember this!!!**

Bob

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Praveen, I think you may need to refine or revisit your statement about efficiency not being related to electrolyte concentration.

**Electrolyte concentration DOES have a direct impact upon maximum obtainable efficiency.** *If the electrolyte concentration is run at below peak conductivity, it is just like inserting resistance in series with a cell.* Current flow is limited by the increased resistance of the solution. This causes less power to flow, BUT, more of the power that does flow, is wasted as heat. Therefore, if one wishes to achieve peak efficiency, even at brute force DC, one would want to run the electrolyte concentration at peak conduction, and use another means to control current, such as a current regulator.

Note that this cannot be applied to a Smacks Booster. His design actually uses the increased resistance of more dilute electrolyte to obtain it's step-gap current differential. Since his design has this criteria, it cannot be improved in efficiency by increasing electrolyte concentration to peak conductivity.

I'm sorry I didn't respond sooner, I do not normally read the group posts prior to coming online to moderate. Therefore, I do not see any posts from unmoderated members until someone that is moderated responds to them.

Bob

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Store conditioned plates in clean distilled water, protecting the surfaces from scratches. Allowing them to dry can cause some catalytic layers to crack.

**The reason for this, not everyone conditions at low enough current, so the catalytic layers may not be as well adhered to the base metal as they should be.**

**If conditioning is done very slowly, and at low current, it will be finer and better bonded to the base metal, and it should be able to**

**survive being dried out without damage.**

Bob

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Bill,

**If your sanded half were in series with your unsanded half, then there will be no difference in output, as the higher impedance of the unsanded half limits the current flow through the sanded half.**

**Sanding does not increase hydroxy gas output per amp, it lowers the voltage requirements of the cell to push a given current. So sanded plate cells will flow more current at less voltage (less power).** In brute force DC, current flow dictates hydroxy gas output. The power (voltage it takes to make that current flow) requirement is the difference. The cells with the unsanded plates will have a higher voltage across them as compared to the cells that are sanded. This shows that the sanded surface cells are more power efficient (due to lower current density) than the unsanded. **The purpose of the sanding is to lower impedance by greatly raising active surface area within a given space. It makes the plates electrically larger without making the plates physically larger.**

**The smallest surface area of any electrode set limits the current flow of the entire set.**

*If you were to measure the temperature of each cell carefully, you would also see that the sanded plate cells run slightly cooler than the unsanded. This is due to the efficiency difference of current density. Less power consumed means less heating of the cell.*

*You would need to take a used plate (kept submerged in distilled water for preservation) to a lab and have the surfaces analyzed. You may be surprised by the results ;-)*

Bob

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**If you need more than 5 amps at the variac output then you may have something wrong.** A 5 amp variac is plenty unless the cell stack has very bad bypass leakage currents. If this is the case, then that cell stack will need to be torn down, then rebuilt and sealed up better.

During cleansing, you will want the electrolyte and plate temperature above **120F (48,8 celsii) but not more than 140F (60 oC)**, with ideal being between 130F to 135F. You won't need more than 4 amps through the cell stack to do this, adjusting current down as the cell stack heats up. **Conditioning is done with long run times at about 1 amp of current flow through the cell stack. Unless this is to be a brute force DC unit, operational current is about 1/2 an amp.**

Bob

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<http://www.gyogyitokezek.hu/fe/studyexp.htm>  
Very good link Kevin

Now consider this. Using a similar principle, consider what takes place **when 3 wave fronts collide from 120 degrees apart**. In water, this produces very very high amplitude peaks known as "**triangle waves**" (see wikipedia!!!). You might wish to look this up if you don't understand how much more of an impact adding 3 correctly timed waves can cause.

Water does not behave quite the same as EM fields however, as we can overlap EM fields of different frequencies within the same physical space. In this manner, we can produce a greater combined impact, especially if the EM fields are harmonically related. This is what the PWM3E/PWM3F series allows, triple waveform generation at a simple level. A proof of concept device that allows people to experiment up to a level that they can try to understand and feel comfortable with.

Going beyond the PWM3 is the next logical step of course. In working with EM fields, the interactions at, and around, the focal point, can be finely manipulated via precision phase control of the applied energies. Thus we can steer the locations, amplitudes, and behavior, of these disturbances precisely where we want them to be. This is where the next generation, the HexController, comes into play. I will leave discussion of that for the future.

Bob

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Hello Mark

It behaves like a cavity resonance, in that cell size affects the actual frequency, but seems to be so much more than that alone. **Physically vibrating the cells at or near these same frequencies, or any other frequencies, does nothing but clear the bubbles a bit faster, but no production increases.**

**There is some other force at work here, because the shape of the waveforms also affect the frequencies resonance will occur at. While a distorted sine wave is what initially caused the discovery, sharp narrow pulses will elicit the most response with the least amount of drive energy. Remove inductance from the equation and a large reaction does not occur. This is one reason why driving a cell stack directly from a pulser circuit or PWM does not behave the same. I have a theory as to the reason this does what it does, but it is unproven at this time.**

**The frequencies I listed were the center frequencies of the tuning areas that worked for my particular 6" X 6" cell stacks. The frequencies used for the 18" X 18" and the 16" X 16" cell stacks were lower, which makes sense.**

I keep seeing others make references to my 600 - 800 Hz adjustable inverters, and I guess people just do not understand. Those were the base frequencies of a harmonic rich system that produced harmonics extending up into the 50 KHz region. Without those higher order

harmonics, the base frequency did absolutely nothing. Modern inverters are useless as frequency sources.

The HexController is still not available. Work on that line of research has halted until the facilities are in place to continue it.

May have time for more later.

Bob

<http://oupower.com/phpBB2/viewtopic.php?p=9588&highlight=wave#9588>

---

Hi,

**This magnetic step is probably quite unnecessary.** In theory, 316L-grade stainless steel is non-magnetic, so doing this step should have no effect at all. Bob Boyce did not specify doing this (nor did he throw it out of the document when he looked at it before allowing it to be published).

However, in the real world, the quality of supposedly 316L-grade stainless steel is such that it may not be completely non-magnetic. The suggestion is not particularly specific so just stack the plates, wrap a few turns of wire around them in any direction you fancy, and give that coils of wire a few pulses of 12 volt current.

Bob Boyce's cell does not perform electrolysis when driven by his toroidal system. Instead, it performs water-splitting in spite of the fact that it contains electrolyte. This water-splitting is performed by applying a pulsating current to a massive array of very accurately positioned parallel steel plates with a "dielectric" inbetween them. **This generates a pulsating magnetic field flowing along the length of the housing.** In turn, this pulsating magnetic field pulls additional extra energy from the environment, enhancing the cell's performance and producing more hydroxy gas with current not drawn directly from the vehicle's electrical system.

(Това е грешно. Енергията се извлича в индукторите, а не в клетката. В индукторите, заради острата форма на синусоидата и малко шантавата и форма, както и заради разположението на индукторите в тороида, се извлича енергията).

If the steel plates used are not fully non-magnetic, given time, this pulsating magnetic field will align the plates magnetically even if the suggested plate magnetisation step is not performed, so in my opinion, it is not in any way critical.

Patrick

Binny <[binny@...](mailto:binny@...)> wrote: Hi,

This brings to mind a question I had that I wanted to ask the group. In the D9 document, in the part /illustration of magnetically orientating the plates it

seems to me to be very unclear as how to set up the plate/coil configuration. The illustration shows the plates stacked like one on top of another but the lines of the plate orientation in the illustration seem to disagree. What is the correct coil plate orientation? Could anyone please clarify Thanks  
Binny

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I thought I should copy this here for those that might be interested.

Bob

\*\*\*\*\*

grizli wrote:

WOULD such toroid CORE without connected to the WFC, itself be an overvoltage device when its three primaries are pulsed described above?

---

**The answer to that is, it depends. If your load is capable of absorbing longitudinal currents, such as water or to a somewhat lesser degree a light bulb, then the answer is yes.** *If the input energy is of a correct configuration, modulated longitudinal energy flows out of the transformer leads when that input energy modulates the localized longitudinal energy field. But our instruments are incapable of measuring it, unless it is converted to transverse energy first. When wound and driven for peak efficiency, this unit behaves as a **Tesla magnifying transmitter**, and a **Tesla radiant energy receiver**, all in a common package. There is an energy gain in the process, which is why Tesla called it a magnifying transmitter. This gain is from a smaller energy source (from us) modulating a larger energy source (the dominant energy of the universe, longitudinal energy), and us capturing and using this modulated energy to do useful work.*

The electronics, and the toroid itself, for the hydroxy gas production version, have been designed to elicit this response in a relatively safe manner. This is why I insist that experimenters stick with a **pulsed field mode of operation. It is much lower in gain than the rotational vector mode.** As such, it is safer, and much less likely to go into a runaway condition in which output energy increases longitudinal energy gain to the point that the system overloads and goes into avalanche. By using water as the load, any increase in output is absorbed by the water in the cells, so it is a self-stabilizing process. Even if an avalanche occurs in a hydroxy gas system, the low power density of the pulsed mode is such that the water can totally absorb the power pulse and just disassociate. This means that in order to be safe, input energy must exercise full control over the tendency to self-feedback, and a load MUST always be present when the device is running. Water is preferred, because it does not burn out, it just disassociates. We tune the primary frequency to that which works well with water. It is a frequency that allows the water to absorb the longitudinal component best. This is

why just pulsing DC does not give the same effect, DC does not contain the longitudinal energy that the water is responding to in a resonance drive system. Unfortunately, the best frequency for longitudinal energy absorption by water is affected by many factors, so we must strive to keep the system in tune for the best absorption of that energy. The other 2 frequencies enhance this energy collection process without greatly increasing the associated risks.

I know that this entire power technology sounds hocus pocus to those educated in traditional (transverse) energy behavior. But I assure you that longitudinal energy is very real, and can be utilized to our advantage. Many many inventions and devices have been shown that can tap into this unseen and unmeasured energy. Some work better than others. But those are discussions for other portions of this forum.

I hope this helps to explain why this toroidal power system works so well with the hydroxy gas cell stacks. I hope it also explains why I do not care to discuss the energy related aspects of this technology on a site where most folk would not understand it. **Rotational vector aspects of this this energy are very intense, and are way more dangerous than pulsed operation. This is why the toroidal information I provide does not include information on other windings that MUST be added in order to safely experiment with rotational vectoring.** The average water for fuel experimenter has no clue how dangerous this energy side of the technology can be, hence the amount of work I expended trying to make a relatively safe pulsed version that the average experimenter can use safely. If not, they would likely kill themselves trying to apply a very dangerous technology to a very simple application, all in the name of trying to generate more hydroxy gas on demand. I am not the only one to do this. Meyer, Puharich, and others, have managed to tap into this energy in a relatively safe and controllable fashion.

Please try to think of it as a utility power line with no current flow limitation. If you get too much coupling, all of that potential energy can flow in an instant. The result is very similar to lightning, and in fact can initiate an actual lightning strike. Take it from someone that has personally experienced and felt the wrath of such a lightning strike, in 1995. I am still suffering the aftereffects of that lightning strike injury.

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Re: Can a "short stack" ever be as efficient as a tall one?

It looks like you do understand the cell construction aspects very well, and if this were about a pure DC or catalytic drive system, then you would be partially correct about 7 bigger cells being as good as more smaller cells of the same area.

**There is more than just surface area at work here. First and foremost, the natural fields of aligned cells are cumulative, so the more cells aligned in series in super close proximity, the better the performance of the entire cell stack.**

Where resonance drive systems are involved, the answer is also a no, as a resonance drive is a complex blend of alternative energy technologies that are engineered to work together in harmony. It is way more than just a source of pulsed DC. **One aspect of the resonance drive uses a dipole (look up electrets as a reference) as part of the operational parameters.** The higher the potential of this dipole, the greater the energy collection capacity of the dipole related structure. **By creating a multi-dimensional HF energy hologram (interference patterns) within this dipole structure, we can enhance the performance of the dipole. But it does take a minimum amount of potential to obtain this effect. So a system running at only 13.8 VDC is operating so closely to the minimum potential, that system energy gain is very low. Comparatively, a system running at 10 times that potential has way greater than 10 times the energy collection capacity.**

**The toroid shape of the transformer focuses this energy inwards to cut way down on radiated energy. Just be careful with handling conductors of systems while powered, as the energy output can be quite painful. The dipole energy that builds up in the toroidal transformer of even a low powered booster can reach hundreds of volts in reference to ambient. You can get a nasty shock and/or burn from touching just one wire, depending on what else you are touching at the time.**

Looks like you made some references to the cleansing/conditioning measurements of a 70 cell unit that was demonstrated in the water fuel museum video. While performance of that unit was impressive, it was not even up to full potential during that interview, as it was being run at the cleanse/condition DC potential, not resonance. The power supply was loaded down to that voltage by the number of cells, an 80 cell unit loaded the same power supply down to about 155 VDC. Cell stacks currently in development will be running 100 cells on this same bias supply potential for even greater production performance at the same power drive level.

Circulation of electrolyte? Not my bag. I like to stick with what is tried and proven. Circulating conductive electrolyte just seems rather risky in a chamber loaded with lots of charged plates and explosive gas. I have seen splashing electrolyte cause sparks in cells that light off the gas. I go out of my way to try to eliminate splashing by adding anti-slosh matting and keeping electrolyte levels low enough to prevent arcing electrolyte shorts across the tops of the cells. Up to you if you want to risk it however. Just don't say you weren't warned ;-)

Bob

-----

You can calculate it yourself if you really wanted to, just by using figures I had already provided.

304SS = best production of 198% as compared to 100% Faraday at DC.  
or  
316LSS = best production of 238% as compared to 100% Faraday at DC.

Either, when properly resonated with a toroidal power system = 400%  
to 500% of DC production. So....

304SS = 792% to 990% during resonance as compared to 100% Faraday at  
DC.  
or  
316LSS = 952% to 1190% during resonance as compared to 100% Faraday  
at DC.

Now these figures are for optimal production, with everything done  
right when it comes to manufacture accuracy, preparation,  
conditioning, and operation of the unit. Math does come in handy  
sometimes ;-)

-----  
317L is a tiny bit better but 316L is what I recommend. Cost vs  
performance-wise, 316L is hard to beat. 304 is ok for brute force DC  
systems but I no longer recommend it for my systems. While it can  
last for years, 304 does not hold up as well chemically, and it does  
not contain molybdenum.

I have compared waterjet cut to laser cut, and the laser cut was of a  
better cut quality. I would dress the edges of both, with waterjet  
cut requiring a little more dressing to get rid of the more  
pronounced edge burring.

The amount of magnetic disturbance was slightly worst on the  
waterjet cut. Not much matter, as with both methods, the magnetic  
disturbance was within the area of the plates that is buried in slot  
and top edge. These areas are not exposed to constant electrolyte  
immersion.

I would have to guess that I am one and the same. I haven't heard of  
any other alternative energy researchers that go by my name ;-)

Bob

-----  
This may get a little , so I will try to explain it as simple as  
I can, given a lack of understanding by most of mankind's "modern"  
science.

**The resonance we seek is not acoustic in nature, though sometimes we  
can hear some traces of it, as in EVP (Electronic Voice Phenomena,  
yea, that spirit voice tech). Nor is it electromagnetic in nature. It  
has nothing to do with the pulsing of current to the plates of an  
electrolyser. All that does is reduce current draw, as in a  
traditional PWM device.**

The resonance that takes place is scalar (standing waves of superluminal (FTL = Faster Than Light) longitudinal energy) in nature, and can be induced by the ultrafast pulsing of a potential (minus the current flow that normally follows) through properly wound inductors. This can be further enhanced if done within the vicinity of a HV dipole. The FTL speed of scalar makes predicting frequency to electrode spacing more problematic, as normal transverse measurements of sonic or EM wave speeds through water do not apply. Electrode spacing, and flatness, are absolutely critical in scalar resonance designs. Error causes loss of efficiency.

The plates are very tight in the slots, and should only be able to expand or contract as a result of temperature change in normal operation. That is why each side slot is enough to allow for a little plate end clearance. There should be no slop, or movement of the plates whatsoever in normal operation.

Hmmm, I just posted something yesterday in the WorkingWatercar group in response to a thread about using a scope to look for resonance.

**Kind of hard to do, considering longitudinal energy cannot be seen on scopes or measured directly using any other transverse test equipment. As material beings trapped within our current transverse dimension, we can only observe the affects of longitudinal energy by examining its perturbances upon electric, magnetic, and gravitational energies. Or its affects upon the fabric of spacetime itself. But we don't even want to go there ;-)**

Bob

--- In [Hydroxy@yahoogroups.com](mailto:Hydroxy@yahoogroups.com), Paul Oberman wrote:

- > So, if I understand, the resonance of the plates, caused by the
- > frequency of the pulsed current, causes the water to break up? If
- > that is the case, have you ever considered placing some sort of a
- > pad or bumper in the slots, where the plates go? Kind of like the
- > pads under a xylophone. This might allow the plates to resonate
- > more freely.
- >
- > By the way, I know that those slots are slightly wider than the
- > plates. Are they a little er, to give wiggle room side to side?
- >

-----  
It's all about barrier voltage, chemical resistance, and resistance to erosion during electrolysis. Higher barrier voltage requires more DC potential to get a given amount of current to flow, which increases watts per liter expended to get a given amount of gas. So higher barrier voltage results in lower power efficiency.

Titanium does not hold up well, as it is not electrodeposition resistant. It could be used as one of the electrodes, but then using 2 dissimilar metals will cause a galvanic response, which will cause

other problems, such as electrode erosion. Barrier voltage is high, so power efficiency is low.

Platinum is great for fuel cells, but not so great for efficient electrolysis. It is a natural catalyst for combining hydrogen and oxygen into water, not the other way around. The result is you have to pump higher voltage to overcome this natural catalytic reaction. To overcome this, apparent barrier voltage is very high, so power efficiency is very low. This is the most commonly used electrode material for electrolysis related scientific experiments. Is it any wonder why results and opinions are so commonly biased against efficient electrolysis?

Nickel is good as an electrode material. It is highly stable with most electrolytes, as long as they contain no carbon. Nickel is only mildly catalytic by itself however. Because of the mild catalytic reaction, apparent barrier voltage is low, so power efficiency is high.

Stainless steel, depending on grade, can actually be the best.

304 gets a mild catalytic boost from the nickel content. Carbon of any kind should be avoided to prevent damage to the catalyst. Because of the mild catalytic reaction, apparent barrier voltage is low, so power efficiency is high.

316L seems to be the best choice, as it contains a blend of nickel and molybdenum in the correct proportions to make for a very good catalyst. Carbon of any kind should be avoided to prevent damage to the catalyst. Because of the stronger catalytic reaction, apparent barrier voltage is even lower, so power efficiency is even higher.

Bob

-----  
That is not true in all conditions. Chemical resistance aside, the material differences between 304 and 316 can be taken advantage of.

If used "as delivered" without surface preparation, there is little to no difference, as you say. This has been proven with comparison testing. So in this manner, what you say is true.

BUT, if you process (prepare, cleanse, and condition) properly, then operate within proper parameters, THAT is when the difference becomes very apparent. This difference is due to the catalytic properties of some of the metals in the blend being brought out into solution, enhanced with the addition of another catalyst, then plated back on as a very thin catalytic layer on the surface of the metal. This has also been proven with comparison testing between identically processed 304 and 316.

To make a blanket statement such as this is simply showing that you are not looking at this from all possible angles. Good try though ;-)

Bob

--- In Hydroxy@yahoogroups.com, "Gary" wrote:

- > Both 304 and 316L will Produce Exactly the same amount of Gas for
- > the same area and current. But the 316L is just More Resistant to Corrosion.

Plate passivation

-----

You cannot passivate with acid prior to use in a system that uses an alkali electrolyte. No matter how good you cleanse, traces of acid will continue to leach out of the pores of the metal and contaminate the electrolyte for quite a while.

Bob

--- In Hydroxy@yahoogroups.com, "Hugh" wrote:

- > Some of us, for reasons of slim financial resources, must make do with other than the optimal materials at times.
- >
- > If you wish to try SS 304, or any of the high ferrous Stainless alloys, then they should be "passivated" first.
- >
- > Prepare a strong solution of Citric Acid (Citric Fruit Acid), 8 to 16 ounces per gallon of water, depending on how many plates you are going to treat, in an enamelled kitchen soup pot and heat to near boiling with the plates immersed. Let the plates simmer in the Citric Acid solution, upright if possible (vertically positioned), with occasional stirring, for an hour or two. The longer the better.
- >
- > Very hot Citric Acid solution will effectively dissolve away the surface iron in the Stainless, leaving the other more resistant metals alone. The resulting Iron Citrate, while hot, will be a clear solution.
- >
- > After you've turned the heat off and removed the plates from the solution, let it cool. Once it's cold and has sat in the open air for some time it should turn a rusty red or brown. This will tell you that it has successfully removed the surface iron from the plates.
- >
- > To dispose of the solution it is probably best to flush it down the drain or pour it into the soil near plants/trees/flowers that need lots of iron to grow. While it isn't a strong acid, and not poisonous, the iron compounds shouldn't be eaten by humans or animals. If you get any of the solution on clothing it will leave a rust stain.
- >
- > Then continue to prepare the plates with vigorous cross-hatching as usual, and then "condition" them in the usual manner. The electrical conditioning of 304, or other alloys, will probably take longer, but keep it up until you see the desired change in appearance of the plates.

- >
- > While the resulting performance of the final electrolyzer will probably be less than that of 316, it should be reasonably close, especially in a Smack's type of cell. Close enough to carry out tests and evaluations and obtain a usable output.
- >
- > It is especially good for newbies and others who want to try a design as inexpensively as possible to see if it will work. Then when the design is perfected and all problems worked out, it can be finalized with the higher priced 316 if you desire.
- >
- > This Citric Acid procedure will work with any of the stainless grades, including 316.
- >

---

Yes Bob, that is very true; and thanks for the jog. There are a few more things to do in hopes of alleviating that contamination.

When handling Stainless Electrolyzer Plates always use a pair of stainless kitchen tongs, or the chrome plated ones, that are very clean.

It is possible, and perhaps best, to cross-hatch the plates before you do the passivation. As Bob has explained, the cross hatching must be substantial and done with very coarse abrasive paper; sand paper or silicon carbide (carborundum) paper.

When processing the plates it is always best to use distilled water if you are able; or de-ionized next best; or as a last resort boiled tap/well water; the boiling and cooling will, at least, remove some of the calcium by causing it to precipitate as the carbonate.

Once you have removed the plates from the Citric Acid simmer, rinse them at once with hot water, then with cold, then place them in a very dilute and cool solution of aqueous ammonia.

If you are able to obtain the 27% Ammonia, then use one to two tablespoons per gallon of water. If you only have a more dilute form of ammonia, (it must be pure and not have any soaps or impurities in it), then add just enough to the cool water with stirring until you are able to smell it without being overwhelmed. Ammonia has a very pungent odor and a strong whiff will shock your nose/nostrils/head, so take precautions please.

The ammonia solution will readily penetrate the pores of the passivated stainless plates and very effectively neutralize any Citric Acid remnant that may still be adsorbed.

Let the plates remain in the ammonia solution overnight, with periodic agitation of the water, then remove the plates and provide a final rinse in hot water.

The purpose of the Citric Acid passivation is to chemically remove the

surface iron by means of a weak and very safe household acid. The subsequent neutralization with ammonia water will be far more effective than lye water due to the affinity metals have for ammonia in preference to other chemicals. The hot rinse following will effectively boil out any remaining ammonia that may still be adsorbed in the stainless.

The final conditioning in lye water with electric current will cause vigorous evolution of hydroxy which will dislodge any trace amounts of ammonia or ammonium citrate which may have survived.

The electric conditioning process should not result in the brown rust flocks and coloration of the electrolyte that is so commonly reported when the stainless has not been passivated and still has all of its surface iron.

Remember, the research done by Bob and others who have been able to perform the required testing and evaluation, has proven the superior performance of 316 Stainless. 304, or other "less suitable" alloys, may be used, with proper treatment, when they are the only option for reasons of cost, or need to conduct preliminary experimentation first, to prove that the hydroxy generation process is for real.

To gain the full benefits of efficiency and performance that 316 enables, then it will be necessary, eventually, to utilize it.

-----

#####-----#####  
That too ;-)

Actually, the cleansing and conditioning process that I have outlined many times, does perform electrode passivation, but uses an alkali that is compatible with the end use of the system to do it.

Using an acid to attempt the same thing is not only redundant, it has been proven to be detrimental to the entire process. This is why I say use no cleaners or degreasers on the plates. Nothing but clean water, and do a final rinse with distilled water.

I have seen these systems fail to work repeatedly because someone read somewhere that they should use this or that to "clean" or "prepare" the electrodes, only to have that chemical or compound leach out later and destroy the very processes that make my system work so darned efficiently.

It took Tero many failed attempts before he finally learned to ignore the electrode preparation advice from George Wisemans book. We were both getting very frustrated with his initial lack of success, that was, until he told me he had been using the George Wiseman method of electrode preparation. Once I found out, I told him to do it exactly the way I had been specifying all along, then he finally met with success. A little error like that made all the difference in the

world!

Bob

--- In Hydroxy@yahoogroups.com, "Bernie" wrote:

> Besides that it would be pointless to passivate and than crosshatch the plates, which will than bring more iron to the surface.

>

> Bernie

#####-----#####

- > The toroidal transformer is used to couple the output of the waveform
- > generator/driver (PWM3 or equivalent) to the cells being driven. **It**
- > may help to think of it as "impedance matching" an amplifier of one**
- > output impedance to a speaker of a different impedance, while**
- > applying a DC bias to the speaker at the same time. The inductance**
- > plays a role in this.**

**Izvadka ot hyperphysics:**

As a general rule, the maximum [power](#) transfer from an active device like an amplifier or antenna driver to an external device occurs when the [impedance](#) of the external device matches that of the source. That [optimum power](#) is 50% of the total power when the impedance of the amplifier is matched to that of the speaker. Improper impedance matching can lead to excessive power use, [distortion, and noise problems](#). The most serious problems occur when the impedance of the load is **too low**, requiring too much power from the active device to drive the load at acceptable levels. On the other hand, the prime consideration for an audio reproduction circuit is high fidelity reproduction of the signal, and that does not require optimum power transfer.

>

Thanks Bob for the clarification. A few more points still seem to require clarity.

How is the impedance matching done ? I understand that the input impedance to the cell has to match with the output impedance of the cell for maximum power transfer to take place. But since the output impedance of the circuit is constant, and also the impedance of the electrolyser is a constant.. (or is it? it probably changes with chemical composition and temperature). How do you change/adjust the impedance of the electrolyser circuit ? Is it by adding a variable capacitor or inductance in series with the electrolyser, so that the circuit can be tuned to resonance.?

-----

In my definition, this reference to dipole means a dipole charge, not

a dipole antenna. A dipole charge is a potential differential between two points, such as the two plates of a capacitor, or between an insulated conductor and earth ground. I'm sorry if it confused you.

Good question on the frequencies. **The primary frequency of interest is at or near 42,800 Hz (42.8 KHz), for interaction with the water,** as you are probably aware. **The purpose of the other two frequencies are related to the generation of interference patterns, and have little to do with the water itself.** Here is where a departure from traditional thought, and outside the box thinking is required.

**When we create interference patterns within an inductor, we are not only creating an electromagnetic pattern, we are also interacting with natural dominant energy fields. With the right interference patterns, we can create imbalances in these natural dominant energy fields. These imbalances "push back" hard, and cause the creation of very strong impulses in the electromagnetic energy coming out of the inductor. This creates strong spikes of energy that are much stronger than that normally experienced by ringing inductors.**

As you may be aware, some military hardware (the guidance system in the minuteman missile) had to be recalled because an onboard DC-DC converter power supply that had a tendency to go into unexpected mild overunity, which caused systemwide problems. This was obviously related to the shape (toroid) and construction accuracy of the inductor, as the replacements were NOT toroidal. Mil-Spec had required high tolerance. That added up to highly accurately wound toroid cores wound with high quality silver plated teflon insulated wire. Sound familiar? **The shape of the core tightly focuses the electromagnetic energy so little is lost to external EMF radiation.**

Interference patterns can be created with a single frequency, shifted in phase and mixed. This can happen accidentally, as in the DC-DC converter, or it can be designed in. But the amount of interference pattern obtainable is extremely limited, so energy gain is limited as well. By mixing a pair of frequencies that are harmonically related, we can yield a much more complex interference pattern. The more complex the interference pattern, the more points of interaction with the natural dominant energy occurs, and the more strong energy spikes we can get vs the amount of input energy. Carry this even further by mixing three frequencies. I have also tried using 4 frequencies, but no further energy gain was observed than with 3 frequencies and 3 primaries.

**The frequencies chosen for the energy portion of the system is not important, but if water is the load, it is.** So yes, we could go to higher harmonics. However, most of the resultant energy coming out of the core would be of a higher frequency than the water can use, so it would be just wasted as heat, which only contributes to interfering with resonant reaction stability. This is why I use the lower frequencies and end with the highest frequency where I want it to be.

So you see, the energy portion of the system has possibilities for application into other forms of alternative energy production.

However, there are instabilities in the energy system that can cause sudden "avalanches" of tapped dominant energy. With water as the load, the water just absorbs these energy "avalanches" and disassociates, which is desirable. So this is a blend of more than one technology to get what we want ;-)

Bob

---

Yes, I certainly have done several electret based radiant energy experiments. As you have observed, voltage is high and current very low. On my most successful electret based experiment, I used a pair of leyden jar capacitors and a pair of adjustable spark gaps. The first spark gap was to isolate the electret wire and first leyden jar from totally discharging when it fired. This prevents the electret wire from having to build up from almost no potential, which greatly reduces the energy collection ability of the wire. That first spark gap fired into the second leyden jar, which acted as a charge accumulator. When enough potential built up in the second leyden jar, the second spark gap would fire, delivering much more current per pulse. Those output pulses were fed into a car coil autotransformer, stepping voltage down and current up. This was used to pulse charge a 12 volt lead acid battery bank. It could not keep up with loads, but it was enough to prevent self-discharge of the batteries. It also made one heck of a desulphation unit ;-)

Litz wire has its uses, but like stranded wire, it is not so good for certain types of radiant energy experimentation. Longitudinal currents do not appear to flow through wire, but appear to follow the wires just above the wire surface. Stranded and Litz type wires seem to disrupt that flow.

Bob

--- In Hydroxy@yahoogroups.com, "cg" wrote:

> Bob, do you or anyone within the group have any prior experience with Electret?

>

> I have a high voltage pulse of 20KV at about 10mA, depending on the rep rate and the transformer effect. I wound a 100:1 transformer using litz wire, the waveform is not clean but was good before the xformer was connected, maybe the litz was overkill.

>

> I would like to lower the voltage to something more usable (12-100Volts) and drive a small elect motor. However the 20KV might be useful for ignition work, I bought a lawnmower to test but the mower doesn't work, so I have to fix that first.

>

> Any comments would be appreciated,

> cg

---

That is exactly what is required to get the frequencies precisely where you want them. You have to use interrupts instead of relying on the clocks and dividers. Using interrupts for timing is not usually covered in programming instructions anymore, that's why it is so commonly overlooked by "modern day" programmers. You must be an old-school coder ;-)

-----

The chain of decay depends upon what energy level of hydroxy gas you are producing to begin with. Irregardless, it will only decay down to the point where it is comprised of parahydrogen and oxygen. UNLESS you have platinum in your system. Hydroxy gas, upon exposure to platinum, will be catalyzed into water.

So remember this... hydroxy gas + platinum = bad news. Ever wonder why all the Hoffman devices you see in science labs separate the gases, so that both are not in contact with platinum at the same time? While fuel cells tend to use platinum catalyst to combine hydrogen and oxygen into water. Oh, and platinum spark plugs... not good for hydroxy gas or hydrogen fueled engines.

-----

Bob,

From what I've seen and heard, diatomic hydrogen can be converted to monatomic by passing it by a localized EMF field (usually a high voltage discharge). Is there any truth to this? We did several experiments, but we only "popped" the resulting gas by lighting it up -- no scientific measurements were taken. The gas seemed slightly stronger to be, but again, these were very rough measurements.

Using this process, can stored liquefied hydrogen be stepped up to a higher energy level before entering the engine?

\$\$\$\$\$

NASA uses a process similar to what you describe. They expose the parahydrogen to a very strong EM field that is modulated to stimulate the stored parahydrogen into orthohydrogen. This by itself doubles the energy density of the hydrogen prior to it entering the rocket engines. The amount of energy required is way less than the greater energy yielded from the conversion. The technology may still be classified though, so I don't know if you can find any details on the subject. A neighbor of mine is a retired engineer from the shuttle program at NASA.

As far as converting orthohydrogen to monoatomic hydrogen, I suspect that it could be done with ionizing radiation, but I have not done any such testing to confirm this. I think that Herman Anderson fairly well proved that automotive applications were satisfied with just doubling the energy density of the hydrogen.

Bob

-----

The PWM3G uses a set of very high performance FET drivers, and these require low noise, low ESR, surface mount capacitors right at the driver chip power leads. Be sure to use the capacitors specified, despite the higher cost over generic chip bypass capacitors. The minor increased assembly complexity of using those surface mount capacitors is well worth the increased overall performance.

Bob

-----

Re: here is what I want to do...

At the time the water is split, energy is not a problem. There is an overabundance of radiant energy coursing through the cell stack, and this produces a highly negatively charged gas, rich in monoatoms and diatomic orthohydrogen. I don't think it is too hard to understand that highly charged monoatoms have no attraction for one another. Once that charge decays, then it's another matter entirely. Once the gas is allowed to decay, then I feel it is a waste of energy to try to restore it. Use it or lose it I always say ;-)

I keep repeating this, and you keep missing the point. When we are splitting water with a resonance drive system, WE ARE NOT DOING ELECTROLYSIS! Heck, even highly efficient series cell DC electrolysis can produce over 70% of the hydrogen in orthohydrogen form due to the magnetic qualities of the cell stack.

Until you actually experience this for yourself, you may forever be stuck inside of that box that you feel so comfortable living in. Hold on tight to that box Bruno, and have a good ride, while the rest of the world passes you by. Wheeeeeee! Because we are not letting long outdated models of the forces of nature hold us back!

Bob

-----

The efficiency continues to rise as you decrease current density. There is a point of diminishing returns however, which is why I chose 1/4 amp or less per square inch as my target.

Bob

--- In Hydroxy@yahoogroups.com, woutero wrote:

> Bob

> You have already told us that at above 0.5 amps per square inch, the  
> metal will begin to erode. You also said that the target current  
density to shoot for is 0.25 amps per square inch. My question is:

>

- > What is the implication of reducing the current density below 0.25
- > amps per square inch? Do we lose efficiency? In other words, what would be the difference in performance between:
- >
- > 1) plates having a current density of exactly 0.25 amps per square inch
- > 2) larger plates having a current density of less than 0.25 amps per square inch
- > 3) smaller plates having a current density of greater than 0.25 amps (but still less than 0.5)?
- >
- > Which will be most efficient?

-----  
Re: Type of stainless: 304 or 316?

That too ;-)

Actually, the cleansing and conditioning process that I have outlined many times, does perform electrode passivation, but uses an alkali that is compatible with the end use of the system to do it.

Using an acid to attempt the same thing is not only redundant, it has been proven to be detrimental to the entire process. This is why I say use no cleaners or degreasers on the plates. Nothing but clean water, and do a final rinse with distilled water.

I have seen these systems fail to work repeatedly because someone read somewhere that they should use this or that to "clean" or "prepare" the electrodes, only to have that chemical or compound leach out later and destroy the very processes that make my system work so darned efficiently.

It took Tero many failed attempts before he finally learned to ignore the electrode preparation advice from George Wisemans book. We were both getting very frustrated with his initial lack of success, that was, until he told me he had been using the George Wiseman method of electrode preparation. Once I found out, I told him to do it exactly the way I had been specifying all along, then he finally met with success. A little error like that made all the difference in the world!

Bob

--- In Hydroxy@yahoogroups.com, "Bernie" wrote:

- > Besides that it would be pointless to passivate and than crosshatch the plates, which will than bring more iron to the surface.
- >
- > Bernie

-----  
<http://tech.groups.yahoo.com/group/Hydroxy/message/10498>

-----  
Re: The good, the bad, and the ugly.

Sorry, hate to be the one to bust your bubble, but James is right. There are at least 3 states or forms of atomic hydrogen that I am aware of. Monoatomic, Diatomic Orthohydrogen, and Diatomic Parahydrogen. This does not account for various states of hydrogen that occur in the plasma phase, nor the assorted isotopes of hydrogen.

The energy content you mention is the lowest energy state of atomic hydrogen, diatomic parahydrogen. Before you dismiss other energy states, to keep from embarrassing yourself, I suggest you do some research.

Atomic hydrogen can exist in these multiple energy states, and contrary to popular belief, they can and do exist for longer than brief microseconds. Applied energy and ionization levels are partly responsible for the formation and continued existence of these.

A simple explanation... What happens when an atom that has been energized to a high spin state decays? Oh yea, it emits energy before collapsing to a lower energy level. Well by pumping these atoms up to the highest attainable energy level, we can assure that even after the collapse, we can still get that base energy level. This is how we can get 4X the amount of energy from hydrogen than the lowest energy level of hydrogen contains. By generating and storing this highly ionized gas in that state, we can extend the lifespan of that gas, and slow the decay to a manageable level.

This is not your fathers electrolysis. This is a whole new breed of blended technologies. A blend of technologies that can complement one another in a beneficial way.

Particle physics is a constantly changing field. Staying stagnant will only ensure that you get left behind as understandings of the physical world around us changes.

Bob

-----  
You're right, it's no longer your fathers physics. The new physics accepts that open systems can draw upon energies from external sources, and not just obvious sources, such as the following;

Like dammed up water flowing through a hydroelectric plant. Or a windmill driven by wind. Or solar panels putting out electrical current when illuminated by the sun. All of these are examples of tapping seen or felt and measurable energies through the use of devices. We are not inputting the energy that is flowing through the tapping device, only channeling and tapping into an external energy source. Keep in mind, not all energies can be seen, felt, or

measured, with the instruments we have available.

Now to answer your question...

The energy drawn from the power source (wall outlet, genset, vehicle powered inverter, ect.) is not used to generate the hydroxy gas! It is used to entrain the water first and foremost. This makes the water molecules tend to line up due to their polar nature. This entraining potential is kept well below that required for traditional electrolysis for maximum efficiency.

Secondly, the toroidal transformer is pulsed with very fast, very narrow pulses of harmonically related energy that sets up an oscillation pattern in the longitudinal near-field. Tesla referred to this technology as a magnifying transmitter. It's no accident that the toroidal transformer resembles a miniature version of the donut perched atop the Tesla magnifying transmitter tower. Radiant energy anyone?

The entrained water is trapped between the plates in resonant cavities (cells). Water, if entrained, can be receptive to absorbing modulated longitudinal energy (LEM), if that energy falls within a specific passband (frequency range).

By adding a MT receiver winding within the toroidal transformer itself, channeling that received LEM energy into the stack of cells, and tuning the system to the resonant longitudinal frequency of the cell cavities (where standing waves meet within the resonant cavity), the water contained in the electrolyte disassociates at the points where these standing waves form between the plates. Not at the plate surfaces. **The energy release is so intense that the atoms of gas released are strongly negatively ionized.**

The modulated longitudinal energy within the local near-field is of a much greater volume than the energy required to modulate it, hence the apparent energy gain. We are only required to input the controlling energy, not the entire flow of energy that disassociates the water. Like I said before, not your fathers electrolysis ;-)

There are a lot of specifications that must be met to make this work, as it is a very complex interaction of materials, compounds, and energies. This explanation has been pared down to pretty much the minimum required. I hope it was enough to help you understand.

Bob

-----

That is the same trap that everyone falls into when trying to understand or explain the Meyer WFC principle. The cell does not behave as a capacitor, it is a high impedance load. Until people recognize it as such, they will never be able to figure out how it really works.

**As a load, as the variables change, the load impedance is affected. One must learn how to automatically match the power supply impedance to the load impedance if one wishes to automate the process.**

Water has a specific frequency range over which it is able to absorb longitudinal energy that is provided. The DC potential applied to entrain the water has a great effect upon that frequency range. The purpose of the inductor is as a bridge to use transverse energy to tap into longitudinal energy.

Bob

-----

Re: Bob's unit?

Maybe because it depends upon how well you build and operate it. If you do a piss-poor job of it, you may get 0 LPM, and if you do an excellent job of it you may get 100 LPM. So somewhere between 0 and 100 LPM is your answer.

Bob

--- In Hydroxy@yahoogroups.com, Stan Black wrote:

> Okay, I have searched the archives and been reading here for months now...but I cannot find out how many LPM's Bob's 101 plate setup should put out?

>

> Thanks

> Stan

-----

I do not totally agree with your interpretation of the Meyer tube based system, however, **electrostatics do come into play**. It is required for such a system that uses potential to tap into longitudinal energy. While current flow must be minimized in such a system (**in order to suppress the B field**), it is not absolute as you assume. No matter how hard you try, there will be leakage currents in real life, as no insulator is perfect. I use **teflon in my system for its dielectric qualities**, and as good as that is, there are always leakage currents.

**There was a major flaw in the Meyer tube based system, and that was the limited depth of charge penetration into the water. This resulted in a surface effect only, and limited the amount of gas that can evolve efficiently from a given amount of surface area. Stanley Meyer knew this, and this was what drove him on to begin developing the injector based system.** Unfortunately, he never managed to get that injection system working prior to his death.

There is a lot of information pertaining to the Stanley Meyer devices that is not in the public domain. It is not my place to publish what

is known by relatively few that were, and still are, very close to that research.

Bob

-----

Re: Need 10 LPM only

Correct Tom.

**If one were to wind a custom inductor, one may be able to get a series string of individual cells to resonate...** IF one can get them all tuned exactly the same. But that is the catch... It is very difficult to get every cell in a batch to be precision enough. And the resonance of each and every cell must fall within the absorbance passband of water.

**A Smacks Booster has impedance mismatch from cell to cell caused by leakage between cells. The cells in such a unit cannot be impedance balanced, hence no resonance.**

Bob

--- In Hydroxy@yahoogroups.com, Tom Thayer wrote:

> Hi Bill,

> You may want to ask Bob or Patrick, but I think Bob's electronics will only work on a sealed series cell unit. Smack's is an open bath design.

>

> h2owalker

-----

Hello Bill

You may want to read my last post, the reply to Roger. It sounds to me like you don't quite understand the difference between resonance and increasing cell efficiency through PWMing the voltage/current to bring it more in line with what it needs to be.

The Smack Booster, while being an excellent design for boosting, is only about half as efficient as a true series cell stack design where the electrolyte in every cell is isolated from one another. This is due to the compromises that had to be made to accommodate a common open bath design. Eletrik did a fantastic job at working out an easy to build, low cost design, that works great for what it was designed to do.

Bob

-----

Re: 20 Cell wiring

I am glad that you finally understand what true series cells are, and how they work. Hopefully you will gain a better understanding of the efficiency advantage of isolated cells, as well as the magnetic benefits of same polarity stacked cells. Many have difficulty grasping these concepts. They do not understand the interaction of  $I \cdot R$ , cumulative effect of metal-water barrier voltages, and end to end ion attractive forces. They assume that the closer electrodes will automatically be the path of least resistance, not accounting for all of the metal-water barrier voltages of the "neutral" plates in between the ends. They are not really neutral, they are an active part of the voltage division and gas generation process. This is why sealing the cells is so important, to keep that voltage division and current (ion) distribution even from cell to cell. If not even, then the impedance from cell to cell in the string varies too much.

The Smack Booster deals with this another way, so as to allow it to work in a common open bath. The consequence is a loss of efficiency, but in the role it is designed to be used, that loss is acceptable. But the impedance imbalance is too great to allow it to be used for anything more than brute force DC. Using a PWM to control average voltage and current is not the same as a resonance drive. It only makes inefficient cells more efficient by bring the average voltage down to a more efficient level. Unless inductance is brought into play, pulsing a cell cannot bring the overall efficiency up to resonance drive levels.

If you had thoroughly read the documentation from Patrick Kelly, such as the Chapter 5 and Chapter 10 documents, or at least the D9.pdf file located in the files section of this group, you would have saved everyone here a lot of trouble and aggravation. Nearly everything you have been asking is spelled out there, in detail. I suggest you read it over and over and let it sink in, so you can find the details that most skip as they just look it over briefly.

You wonder why many of your questions go unanswered? It's because most of what you have asked, has already been asked, many times, by other newbies that don't want to waste their time reading. Well guess what, we really don't want to waste our time repeating and repeating the same old things over and over and over and over and over and over... get my drift? I have too much to do to respond to each and every question directed at me. If I feel a subject needs clarification, and I have the time, I will respond. I do not mind doing this. But typically I will not respond to topics or questions that have ready answers waiting in the documents and prior posts on this group.

Bob

-----

Re: Question For Bob Boyce, No Toroid No Electronics

The 100 cell unit will work at DC, but you will have to use

a "variac" or similar variable transformer to step the voltage up to about 200 VDC at the output of the rectifier/filter capacitor. This must be done during the cleansing phase anyways, and run at less current for conditioning.

I hate to give out figures like this because every unit is different, and will deliver a different power efficiency based on how well it was constructed, prepared, cleansed, and conditioned.

Without stressing the cells with heat, depending upon how well you did on building it, you can get 10 to 20 LPM via straight DC at low current. Bump the voltage up (which raises current), and you can push that unit to 50 LPM or more at DC, but it will get hot. It was not designed for that. It was designed for short duration (8 to 10 hours at a time) cleansing currents of 4 to 5 amps, and extended run times of 2 amps or less. I do my calculations to determine if a unit is ready based on the voltage required to run the units at 2 amps, and how uniform gas production is at that current. If the end cells bubble more than the rest, that that is a sure sign of ion leakage, and the unit will have to be repaired or rebuilt.

Bob

-----

Because hydroxy gas does NOT implode when burned in a normal reciprocating internal combustion engine! The expansive media (air) expands, pushing the piston down. There is not enough time during engine cycles for burned hydroxy gas to implode, even IF it were run pure with no air. Atmospheric pressure is not enough to run an engine of this type, even if it were slowed down to a few RPM to give time for implosion to occur, and the heat of combustion could be drawn away fast enough to allow implosion to occur even at that low speed.

Someone that feels otherwise needs to read more and post less.

Bob

-----

<http://tech.groups.yahoo.com/group/Hydroxy/message/11812>

-----\\

Re: Bob Boyce Toroid Core average primary winding Gauge

That is the secondary that is 16 guage, the primaries are 20 guage, Both are silver plated teflon insulated solid copper wire.

Bob

--- In Hydroxy@yahoogroups.com, "ashtweth\_nihilistic" wrote:  
> D9 specifies 16 gauge - 130 turns. Thing is you have to find the

> single core silver plated, Teflon insulated copper wire first, its  
> like trying to find to tooth fairy for sum :)>  
>  
> Ash

-----  
Re: Bob Which 110v Inverter do you use. what is wattage required by 101 plate system

A cheap generic 12 VDC to 120 VAC inverter rated for 500 watts continuous or more should be fine. There is no need for an expensive inverter when all we need is rectified and filtered DC from it.

Bob

-----  
Re: B.B. design

No, I use a heavy choke between the HV supply output and the toroid to fully isolate the power supply from the HF TEM and LEM energy. If this is not done, the LEM will flow back through the power supply instead of dissipating in the load (the cells).

Bob

--- In Hydroxy@yahoogroups.com, "hagent25" wrote:

> Hi Bob,  
> I have a question on your 101 plate system.  
> Do you use capacitors to smooth out the rectified DC from the inverter?  
> If so do you add additional diodes after the capacitors to block the  
> capacitors from filtering out the three mixed frequencies induced on  
> the secondary?  
> If you have any documentation on how you wire up the capacitors and  
> chokes, it would be greatly appreciated if you could share.  
>  
> Thanks very much,  
> Hagen

-----  
Yuppurs, heavy enough. A choke goes between each side of the rectified and filtered 160 VDC source and the cell stack. Another choke goes between the common of the 3 primaries and the +13.8 VDC supply.

Bob

--- In Hydroxy@yahoogroups.com, aaajbell wrote:

> Bob,  
> I picked up a couple heavy chokes at a surplus electronics place

> nearby. They are rated 16A, 140uH/24mOhm. I also have a 2000uF  
> capacitor to use as a filter.  
>  
> Are these chokes heavy enough?  
>  
> Should these be connected to the +and- outputs of the bridge  
rectifier  
> and then the output of that filtered with a large capacitor, or  
should  
> the +and- outputs be filtered with the large capacitor then the  
> outputs of that fed through the chokes?  
>  
> Thank you in advance,  
> Allen  
>

-----

Re: Boyce Cell similar to an antenna load?

Very good, only you have it a little off. The "antenna" is the toroid, which resides inside of a faraday cage (aluminum box) when finished, to minimize EMF radiation. Thus the only energy that can pass through the faraday cage bi-directionally is longitudinal energy. I prefer to use a homebrew round aluminum box for less impedance mismatch between the toroid and the faraday cage.

The controller (PWM3 board or HexController) can be thought of as a triple harmonic "transmitter", which feeds triple transmit windings (primaries) on the toroid (antenna). The receive winding (secondary) couples the received energy, and directs it into the load (cell stack). **Impedance needs to be matched at both the transmit side and the receive side in order to make this work efficiently enough.**

**The major difference between this device and a radio transmitter / receiver is that the frequencies used are well below radio, and the energy being transmitted / received is longitudinal in nature, which travels FTL (faster than light). Modulated longitudinal energy (LEM) has a different propagation speed than TEM (transverse electromagnetic) energy, so the dimensions required to set up standing waves are different. This is why the math does not work out when trying to use existing formulae.**

The concept used is that of a Tesla Magnifying Transmitter, with the associated receiver incorporated. I have refined the design beyond the original single phase MT design of Tesla.

I am also an amateur radio operator, general class, and retired broadcast engineer.

Bob

--- In Hydroxy@yahoogroups.com, "swc001" <swc001@...> wrote:  
> I've been meaning to ask this question ever since Bob

> mentioned "standing waves" in his system.  
>  
> Back when I was in Ham Radio, we typically had to work to tune a  
> transmitter to a given antenna. This often took the form of using  
a  
> big air-gap tuning capacitor in conjunction with an SWR (standing  
> wave ratio) meter to try and match the impedance of the antenna  
with  
> one's transmitter.  
>  
> This was done to maximize output signal gain. It's a little fuzzy  
> to me now, but when there was an impedance mismatch between the  
> transmitter (power) and the antenna (load) you had large  
> inefficiencies (I think the same held for trying to receive signals,  
> too).  
>  
> The goal was to get the lowest (hmmm...highest?) reading on the SWR  
> meter in order to find the best match point with the capacitor (I  
> don't recall an inductor being involved, at least outside of the  
> transmitter box) in order to get the best gain out of your antenna.  
>  
> So, when Bob mentions his cell should be seen as a "load" and not  
an  
> RC circuit, and seeking to obtain a certain status in terms of  
> standing waves, I just had to ask if the same sort of ideas and  
> theory in transmitter/antenna matching applies here as well.  
>  
> Thanks,  
> Scott

-----

Re: Boyce Cell similar to an antenna load?

I wish it were so simple. The problem is, the relatively HV used (~160V) is required as a potential dipole (polarity dipole, not antenna dipole), and in order to run a lower impedance cell stack in resonance, the dipole potential would have to be lowered. This causes a linear drop in gain. By the time you are down to that low number of cells in the stack, there is no appreciable gain from environmental energy. It is this gain from environmental energy that produces the large amount of gas in excess of the energy that we input into the system as drive energy. This is why the percentage of performance increases as we build cell stacks (batteries of cells?) using higher and higher numbers of cells in series.

When I have the time and energy, I may work out a way of using an additional winding to contain the HV and find a way to couple that energy from the HV winding into a lower voltage winding that feeds the cell stack. I do not know if this can be made to work yet, as LEM does not follow the same "rules" as transverse energy.

Bob

--- In Hydroxy@yahoogroups.com, "swc001" wrote:

- > So then one could presumably tune the transmitter (perhaps requiring
- > some mods to the coil at least?) to drive a smaller "array" (fewer
- > and different size plates).
- >
- > Assuming a roughly 1-1 correlation (101 plates => 100LPM, no let's
- > say 50LPM - about a 2-1 ratio), then would say... some arbitrary
- > number... :-) ...say 16 closed-bath plates could potentially yield
- > 8LPM if built and driven correctly? Too simplistic?
- >
- > Am I being too obvious? SMACK me if I am, Bob. :-)
- >
- > Scott

-----  
Yoo much voltage and quescent current per cell during resonance will cause excessive heating which destabilizes the reaction.

Crosshatching increases surface area and reduces resistance at the water/metal boundary layers.

Bob

--- In Hydroxy@yahoogroups.com, "hagent25" wrote:

- > Bob could you please explain why you couldn't use 240 volts on a 101
- > plate system if you keep the KOH down to a minimum, and use distilled
- > water only. The higher voltage would let in more environmental
- > energy? This gives us a better understanding of your system.
- >
- > Also if the HOH is formed in between the plates, due to resonance
- > then why do you need to cross hatch them?
- >
- > Thanks,
- > Hagen

-----  
Re: Boyce Cell similar to an antenna load?

That is not what I said. What I said was crosshatch sanding increases surface area and reduces resistance. Irregardless of the method, be it brute force or resonance, lowering resistance increases efficiency by lowering heating due to  $I^2R$  losses. Common sense applies.

Bob

--- In Hydroxy@yahoogroups.com, "swc001" wrote:

- > So, it sounds like you are saying that resonance doesn't cause
- > molecular dissociation to occur between the plates but just (or
- > primarily) on the plate surface, hence the need for as much surface
- > area as possible?
- >
- > Scott

-----  
Re: frequency setting

If you have the PWM3F board, and your cell stack has been cleansed and conditioned, you may try the following...

Set your bias supply (using a variac) for a voltage of 1.5 to 1.6 VDC per cell. 100 cell box would be 150 to 160 VDC. There should be zero, or nearly zero, hydroxy gas production at this point. This is normal for a resonance mode system.

With pulse width controls set to full clockwise, set the frequencies using the frequency control pots (marked as HZ). Channel 1 42.800 Khz, Channel 2 21.400 Khz, and Channel 3 10.700 Khz.

The pulse width needs to be set to minimum "on-time" for channel 1, and the other 2 channels set to match pulse duration of channel 1 using the pulse width control pots (marked as DC)

Then adjust channel 1 frequency, very slowly, first up, then down, near the 42.800 Khz center while watching for response from the cells. The response you are looking for is a increase in hydroxy gas production over the baseline. It will be hard to see, so you will have to tune carefully.

Once you do hit it, measure the exact frequency of channel 1, and set Channel 2 for exactly half of that frequency. Slightly adjust Channel 2 frequency while looking for another increase in hydroxy gas production. This setting may alter the optimum Channel 1 setting slightly, so you may have to re-tweak Channel 1, then Channel 2 for total maximum hydroxy gas output.

Channel 3 is set to exactly half of the frequency of Channel 2, which should already be exactly half of Channel 1. Channel 3 is pretty easy to tune from there, it should not cause the tuning of Channel 1 or Channel 2 to vary, and it is adjusted slightly to vary hydroxy gas production up or down, sort of like adjusting an output "volume control"

Without seeing how your PWM3F board and cell stack are responding, it is a bit hard to give exact directions that will help you, especially since quality of the critical OCP-PCP116 Lumex digital opto chips now being sold have deteriorated beyond my ability to compensate. This is why the PWM3G board re-design was required. If you were lucky enough to get older Lumex chips that met the original turn on / turn off delay time specs, then you should be OK. If not, you might not be able to get Channel 1 to tune to a low enough pulse width to keep from wasting power and frying the FET.

Bob

<http://tech.groups.yahoo.com/group/Hydroxy/message/13278>

-----

Re: Boyce Cell similar to an antenna load?

-----

Re: Single cell resonance

Hello David

I think you are the first to actually mention in the group that this technology may go beyond fracturing water, and you are quite correct! I usually refrain from getting into much detail about these other aspects of the energy use in these forums, as it is ongoing research.

It is a function of the very sharp voltage gradient transitions that "pluck the strings" of the HV dipole and cause this interaction with the dominant energy fields within and surrounding the core. In this manner, the core behaves very much like a Tesla device known as the Magnifying Transmitter.

The perturbed HV dipole itself within the silver plated secondary is also what gathers the modulated longitudinal energy (LEM), but only that energy that is modulated at the same exact frequencies and "digital" pattern as that transmitted. This is the selectivity that Tesla discovered and patented in his wireless transmission of energy device(s).

The gain of the receiver device is determined by the intensity of the HV dipole used for collection. Thus, in order to use this received energy, one must ensure that the energy is not wasted by coupling it into unwanted ground paths, and to only couple the energy into the desired load(s). This is where the chokes and impedance matching come into play.

This energy is radiant in nature, and can be either used directly in devices that can operate directly from radiant energy, or converted into transverse energy via a number of methods. The trick is in getting the most energy conversion efficiency possible with the chosen method.

Water absorbs this radiant energy very efficiently, IF the water is entrained, AND if the energy falls within a couple of very specific passbands. The widest being in the near 40 to 45 Khz region, with the peak efficiency falling near 42,800 Hz. The key to getting this to occur is to set up standing waves in a manner that produces impulse peaks and nulls within the solution at the points where these waves collide. This is why uniform distances between plates is so absolutely critical.

So, what else can we do with this energy? Well, not only can we split water, but we can convert this energy into transverse energy and

charge up batteries or capacitors, then run loads. We can also directly light up neon or fluorescent lights, run certain HF inductive loads, arc lamps, or just about anything that will run directly from "cold electricity". What we cannot do is measure this with a voltmeter or ammeter, or use this "cold electricity" in most devices designed to run on transverse (normal) electricity until it has been converted. Great strides have already been made in this energy conversion, but much research is yet to be done to increase the conversion efficiency.

I hope this answered your questions.

Bob

--- In Hydroxy@yahoogroups.com, "David Parker" wrote:  
> I am curious about this. If my questions have already been  
> answered please just tell me to go do some more reading.  
>  
> Is the longitudinal energy being attracted by the core  
> windings, or is some of it being attracted by the cells?  
>  
> Would it be possible to step down the voltage with a  
> secondary core and still retain the longitudinal energy?  
>  
> Are the frequencies used selected to attract more  
> longitudinal energy or are they selected because it causes  
> the water to break up with less energy?  
>  
> Are there any other applications that you could safely use  
> your electronics in other than Hydroxy?  
>  
> David

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Re: Current oscillator -why are there 3 freq-why not 1

Actually, the primary frequency was chosen because LEM has a higher propagation speed than that of light, and we do want the standing waves to occur within the confines of the cells. There seems to be a passband where entrained water is very receptive to absorbing or reacting with this energy, and exhibits the electron formation in solution that I mentioned in another post. 42.8 KHz falls within the center of this passband. As electrode spacing is altered and the frequency required to obtain standing waves goes above or below this point, then efficiency is rapidly lost. Too far away from center and no measurable absorption occurs.

So the known interaction with water occurs, but only given the right circumstances. Like **potential entrained water** (2v na kletka), electrodes spaced correctly for standing waves, and very short and fast transition timed pulses interacting with one or more inductors that are connected to electrodes in contact with the entrained water.

Bob

--- In Hydroxy@yahoogroups.com, "colinprice74" wrote:

> And I presume 42.8 KHz with it sub harmonic frequencies were chosen  
> because it is a known frequency for H2O disruption.

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Norman, 200ml per minute is not even 1/4 of what it takes to get a decent boost for most car engines, let alone run an engine. It might boost a small motorcycle engine though. If you want something that puts out enough gas at a decent enough efficiency to do a good job at boosting, try a Smacks booster or a true series cell booster.

If you want to run an engine on its own, it's going to take a resonance drive to deliver the amount of gas needed on demand, at a low enough energy cost to be sustainable.

For boosting, you will need at least 750ml per minute for most 4 cylinder engines, 1000ml per minute (1 LPM) for most 6 cylinder engines, and 1500ml per minute (1.5 LPM) for most 8 cylinder engines.

While Jose has a very nicely made unit, as a simple booster it is just way too expensive for the amount of gas that it is capable of producing. The way it is currently offered I should add. I understand that a lot of work has to go into it, hence the high cost. It does have the potential to be improved upon. Now if you want to add a Meyer / Lawton / Ravi type resonance drive to it, then that is a whole 'nother "can of worms" ;-)

I would suggest that a material other than polycarbonate be used. I have a lot of experience dealing with the water for fuel types. Despite precautions to the otherwise, some darned fools are going to try dumping KOH, NaOH, or baking soda into it, and that housing will crack into a thousand little pieces if it is made of polycarbonate. KOH is the worst, but even NaOH (and baking soda as it decomposes into NaOH) will degrade polycarbonate, at a slower rate.

Bob

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Pick up 8 304 or 316 plates from eBay or a local metal or scrap shop. Seen these for \$3 to \$4 each on eBay. About \$10 worth of plastic scraps from a local plastics supplier. With a little elbow grease you can put it all together with solvent, and use lye from the hardware store for electrolyte.

A cheap bubbler can be made from 2 PVC end caps and a piece of PVC pipe, with a couple of plastic hose barbs threaded into drilled / tapped holes.

Brute force DC boosters are not as critical in construction detail as resonance drive systems, and they are WAY more efficient than the expensive boilermakers. You don't always have to cut grooves for a booster, can just use strips of plastic along the sides and bottom bonded to the box sides and bottom.

I've helped quite a few people knock out these easy and cheap to make boosters for their vehicles.

Bob

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