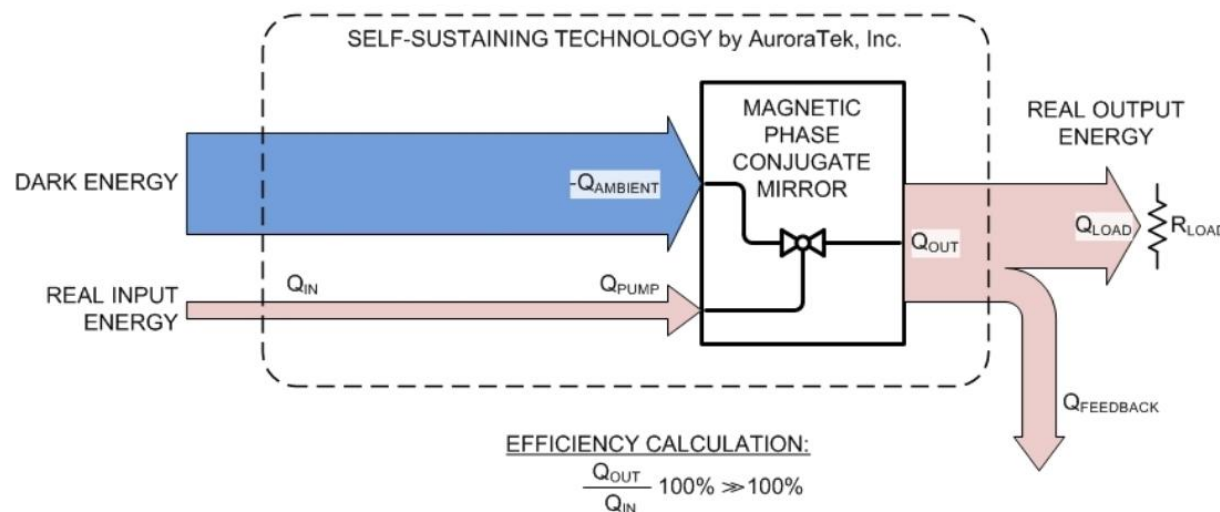


Advanced Self-Powered Electric Vehicles

AuroraTek's Self-Charging Electric Bike

AuroraTek, Inc., exhibited at the 2014 International Consumer Electronics Show their self-charging electric bike which never needs to be recharged at an electrical outlet.

Dark energy is harnessed through the use of bifilar coil configurations, which neutralizes the effect of self-induction. The bifilar coil is driven by two independent transverse pump waves. The ferromagnetic core material used by the bifilar coil acts as a nonlinear medium known as a Pumped Phase-Conjugate Mirror (PPCM). During operation of the PPCM, when anti-waves or 'dark energy' comes in contact with the mirror, a transformation occurs producing time-forward electromagnetic waves. In other words, the PPCM acts as a gateway or valve transforming 'dark energy' to 'real energy'. This process occurs in the low to mid-frequency range allowing ordinary power electronics to capture the real power and deliver it to a load.



Richardson Fuel-Less Electrical Generator

Two pairs of electromagnets warp a permanent bar magnet's magnetic fields back and forth across output field coils to induce a DC output voltage. With additional resonant circuit components, over-unity electrical energy conversion gain is achieved. US Patent 4,077,001 for "Electromagnetic Convertor with Stationary Variable-Reluctance Members".

The Richardson blade-less Tesla-type steam turbine has a closed-loop cycle which is far more efficient than the electric motor in terms of converting electrical energy into rotational energy for application to a vehicle's drive wheels. The water is heated with radio frequencies like a microwave oven into steam which is then forced through two disks in sequence. The two disks are perforated in such a manner as to prevent cavitation (bubbles) even at high rotational velocity.

Since steam offers a 1,000-to-1 expansion ratio compared with gasoline's expansion ratio of approximately 300 to 1, the turbine is extremely powerful. An 18-inch diameter prototype's output power was measured at approximately 1,000 horsepower. The electricity for the water heater comes from the Richardson fuel-less electrical generator.

Combining the blade-less steam turbine with his electrical generator, Frank Richardson had built a self-powered modified beetle-shaped Volkswagen automobile which he drove around during the early 1970's without bothering with refueling at gas stations, tune-ups, oil changes, etc.

Conical Vortex Heat Exchange Engine

Richard Clem was a heavy equipment operator who in 1972 had noticed that a hot asphalt sprayer would continue to run for up to an hour even after the power was turned off! So he built a modified version as a 200-pound engine which ran on vegetable oil at 300 degrees and was started by a 12-volt battery. The heat is internally generated by the engine. During a nine-day test conducted by Bendix Corporation engineers, the engine in its self-running mode consistently generated 350 horsepower into a dynamometer. The engine was constructed from off-the-shelf components except for a hollow shaft and a custom cone with enclosed spiral channels. Illustrating its durability the only working model of the Clem engine has been continually running on his son's farm for several years.

A modern prototype engine was designed to produce 25 KW continuous output based on truncated conical vortex heat exchange engine design concepts without consumption of extrinsic fuel. It converts compressed rotary motion using non-compressible oils to create usable shaft torque at 1800 – 2300 rpm.

If the automobile industry adopts the conical vortex heat exchange engine, motorists could change its several gallons of oil only once every 150,000 miles and never buy any gasoline.

Combining the conical vortex heat exchange engine with the hydrosonic pump could provide distilled ocean water as well as hot water for space heating, kitchens, and bathrooms at NO energy cost.

Volcheck: Engine Powered by Gas with Unusual Expansion Properties

In 1995, a man named Volcheck of Grand Coulee, Washington, made a trip across the United States and back in a car powered by a special gas he developed that had unusual expansion properties. He claimed to have obtained the formula from some unpublished notes of Leonardo Da Vinci.

Volcheck says the gas expands enormously at about 395 degrees Fahrenheit to 450 pounds pressure. In other words, from approximately 390 to 395 degrees Fahrenheit, the gas expands from a volume of one unit to a volume of 10,000 units. He used this gas in a modified Franklin aircraft engine which behaved more like a steam engine. He never refueled during the trip – consuming \$10 worth of this special gas.

Torsion Field Radio

Most drivers become annoyed when a radio station's signal weakens under overpasses. The theoretical maximum capacity of torsion field communications is apparently 40 billion channels of radio and holographic television through the entire earth without attenuation at a speed of one billion times the speed of light. Torsion field communications is made possible by special crystalline lattice cells. A radio station broadcasting from its studio via the torsion field could have its signal picked up anywhere in the world without dropouts. Torsion field cell phones would allow world-wide talking.



Prototype Torsion Field Generator

Torsion Field Energy Applications

Since all known substances possess a non-zero collective spin state [this means, in simple terms, that everything is always in motion at all scales], then all substances must also create and exist within their own localized torsion fields. The expanse and frequency structure of any substance is determined by its chemical composition and the expanse structure of its molecules or crystalline lattice. A clear understanding of these mechanics will enable commercialization of energy storage devices which have energy conversion characteristics well in excess of gasoline [650 watt hours/kg].

The I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, has prototyped a solid-state energy cell which produces 850-1040 watt-hours/kilogram. This is at least 35-50 times the energy density of any known conventional energy storage devices developed in the West. Their claims have been verified by the Idaho National Engineering and Environmental Laboratory, Defense Advanced Research Projects Agency, and the Advanced Materials and Technologies Laboratory. A key element of their crystalline lattice deposition method relies on the effects of a torsion field beam.

Sandia Laboratories, Los Alamos, NM, developed a thin-film solid-state energy storage device with an energy density of 250-400 watt-hours/kilogram.

Nickel-Iron Battery

The nickel-iron battery is a superior new type of electricity storage device with none of the drawbacks of all other types of batteries such as temperature sensitivity. It is actually a modern version of inventor Thomas Edison's nickel-iron battery.

Increasing the surface area of the electroplates by up to 1000 times greatly increases current output and allows much quicker charge/discharge rates. Different chemistry reduces the weight of the battery by 50%, reduces cost, and is much more environmentally friendly than lead.

The first of several nickel-iron battery patents is US Patent No. 6,060,198 "Electrochemical Battery Structure and Method".

Compressed Air-Driven Air Conditioner/Heater

The compressed air-driven air conditioner/heater (US Patent 4,407,134 “Air Conditioning System”) relies on the principle of a vortex tube. Air whirled in a vortex tube separates with the cold air molecules collecting in one portion of the tube, and the warm air molecules collecting in another portion of the tube. The cold air is expelled from one end of the tube, and the warm air is expelled from the other end. It can be switched between providing 90% cold air and 10% warm air, or 10% cold air and 90% warm air.

The metal tube is about a foot long and a half-inch in diameter with a two-inch long compressed air intake tube perpendicularly attached about three inches from one end. The intake compressed air requirement specifications are 7 cubic feet per minute at a pressure of 40 pounds per square inch. The volume of air expelled is twice that of a refrigerant-type automobile air conditioner while requiring only one-fourth the horsepower. Also, no warm-up period is required as with conventional air conditioners or heaters. Its laboratory-certified efficiency is nearly 30%. On a hot Las Vegas summer day the air blowing out of the cold end has been measured at around 0 degrees Fahrenheit.

Combined with an on-board battery charger, the advanced self-powered electric vehicle would have the exceptionally nice feature of continuous climate control, even while parked! Parked on a cold winter day, the interior of the vehicle would always be toasty warm. On a hot summer day, the vehicle’s interior would always be refreshingly cool.

Low-Temperature Diamond or Titanium Nitride Coating of Vehicle Parts

Nondestructively coating numerous vehicle parts such as shock absorbers with diamond or titanium nitride would enhance durability. The patent for the new low-temperature coating process is US 5,254,237 “Plasma Arc Apparatus for Producing Diamond Semiconductor Devices”.

A multiple gun plasma arc deposition system allows controlled deposition of diamond and other diamond-like materials such as titanium nitride on a substrate. Deposition is controlled by controlling the time duration of pulses to a main gun, an acceptor gun and donor gun in a vacuum chamber that may contain a small amount of hydrogen. The deposition process is also enhanced with microwave temperature control and substrate dithering with a transducer.

The diamond deposition system and process can also be used to manufacture diamond-based semiconductor devices.

Advanced Computer-Controlled Suspension Systems

The Computer-Optimized Adaptive Suspension Technology (COAST) system replaces a vehicle's conventional shock absorbers with specially designed hydraulic shock absorbers. The COAST system utilizes a sophisticated computer and position sensors to monitor the vehicle's level at each corner. The computer's microprocessor checks the sensors 240 times per second and optimally regulates the damping on all four shocks based on this input. The firmware controls nine dynamic and static parameters of motion (roll, pitch, sprung natural frequency, unsprung natural frequency, pumping down, stored energy, topping out, bottoming out, and height).

Each shock absorber is actually a complementary pair of shock absorbers mounted in opposing vertical compression/rebound modes. The computer sends signals to valves to release pressure as required. The shock absorbers may be more durable and react faster than competing computer-controlled shock absorbers which apply pressure when needed.

The air ride suspension system replaces a vehicle's front coil springs and rear leaf springs. The air suspension comprises of a high-quality control subsystem that includes dual redundant air compressors, air dryers and filters, position sensors, computer-controlled solenoid valves, and a dashboard-mounted control to ensure proper operation and a long and reliable life of the air suspension in all weather and driving conditions. While stopped or driving, the control subsystem allows the operator to easily maintain the correct ride height under all loading conditions. For example, the chassis can be raised for a bumpy ride and lowered for stable highway driving. The vehicle body is automatically leveled at all four corners, even when parked on an uneven surface.

Combining these two computer-controlled adaptive suspension systems would offer a luxurious ride with sports-car control and additional features at a reasonable price. US Patents 5,056,811, 5,735,372, 4,634,142, 4,722,548, 4,468,739, 4,468,050, 5,529,152, 4,651,838, and 4,783,089.

IPMS High-Temperature Gas Plasma Detonator

The I. N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, has invented a high-temperature gas plasma detonator which can spray strategic metals and other commonly used materials onto the surface of other, previously incompatible materials. These high-temperature gas plasma detonation spray technologies make it possible to create permanent molecular bonds between materials which could never be married together before.

The IPMS has developed an extensive family of previously unknown technologies based on woven fibers made entirely of 100% pure basalt fibers (lava rock). This totally new technology allows for the production of basalt/carbon fiber foam that is extremely strong yet lighter than fiberglass. The foam can be formed into a variety of monocoque (unibody) basalt/carbon fiber foam vehicle body/frame parts.

An experimental vehicle made with lightweight IPMS-manufactured basalt/carbon fiber foam body/frame parts was reportedly the only vehicle ever tested that can cut through a cast-iron London taxicab in a collision.

Hutchison Self-Charged Battery

John Hutchison's self-charged battery generates a perpetual DC voltage without external recharging. By stacking enough self-charged batteries into a single DC generator, the generator's DC voltage can be converted to regulated AC electricity and thereby silently electrify a house without fuel or emission of pollutants. The DC voltage could also cleanly power an electric vehicle's DC motor.

An energy researcher has reported "I have tested some of his crystal cell batteries and they do work, very low power outputs nearly continuous,..."

Endless Electric Field Generator

The solid-state 'endless electric field generator' produces a permanent electric voltage (similar to a permanent magnet) that does not break down and is resistant to short circuits. Its permanent electric voltage can sustain a constant current through a load. Various manufacturing techniques will use only materials that are cheap, non-toxic and in abundance.

A postage stamp-sized device could endlessly output one watt of constant electrical power – enough to power a cell phone for twenty years. Appliances and electric cars could be constantly powered without fuel and pollution.

This technology works by producing a permanent electric field (the opposite of a permanent magnetic field in a permanent magnet) that does not break down. From this permanent electric field, a constant flow of electricity can be produced.

Currently, prototype outputs are modest – only capable of powering small lights or other loads. By developing methods of increasing the surface area of the device, which will boost the current to a higher level (the voltage is already there), the technology could be scaled up to provide electricity for any application – mobile phones, computers, electric cars, homes, industrial machinery, etc.

IPMS Crystal Lattice Energy Storage/Battery Device

The I.N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, has developed an energy storage device which works on a completely different principle from chemical batteries. Requiring only 15 to 30 minutes to recharge, IPMS crystal lattice energy storage devices produce the same current and voltage levels throughout 98% of their discharge cycle. They produce no heat during discharge, regardless of the rate at which they are discharged. Their quick recharge capability allows them to easily capture regenerative braking energy, extending the electric vehicle's range. Their energy densities of between 850 and 1050 watt-hours/kg are about a third more than gasoline's energy density of between 550 and 600 watt-hours/kg. They operate well in the temperature range of -40 to +60 degrees centigrade.

The crystal lattice battery stores the charges in crystalline layers of a sheet-like material similar in appearance to mica. Due to nonlinear quantum mechanics effects, the electrical characteristic of each crystalline layer is that of a capacitor as thin as one molecule. Since capacitance is inversely proportional to thickness of the separation between layers, the practical consequence of the battery is to electrically function in a manner similar to that of a giant capacitor. A side benefit of these batteries is that they are made only of proprietary materials which are environmentally friendly, plentiful, and inexpensive.

Quantum High Energy Density Storage or Retrieval Device

Essentially a very thin battery, the solid-state Quantum High Energy Density Storage or Retrieval (QUENSOR™) device has an energy density of about 1-15 kilowatt-hours/kilogram, which is comparable to gasoline, or more. A fundamentally new principle and a new method of manufacture are employed.

Electric energy is stored or retrieved from quantum dipole electric fields throughout the volume of the QUENSOR™ film. Electric energy is stored in the QUENSOR™ film by charging the dipole electric fields from an electric energy source. Electric energy is retrieved from a QUENSOR™ film by discharging the dipole electric fields and supplying the energy to a load. Electric breakdown in the film is avoided because positive and negative electric charges in the film are balanced everywhere. Busbars attached to metal layers are connected to terminals for charging or discharging the QUENSOR™ film.

A composite QUENSOR™ and light-polarizing photovoltaic film LUMELOID™ panel may be used for the storage or retrieval of solar-electric energy day or night on demand.

Catalyst Induced Hydrino Transition Cell

The Catalyst Induced Hydrino Transition (CIHT) cell generates electricity directly from hydrogen. But, unlike a conventional hydrogen fuel cell, the CIHT cell's manufacturing cost is forecast at \$25 per kilowatt compared to thousands of dollars per kilowatt for a fuel cell. This is in part due to the CIHT cell's electrical energy released per hydrogen being over 200 times greater, and the CIHT materials being inexpensive. Moreover, fuel cells can't use water as the source of hydrogen, since their product is water. For CIHT, no fuel infrastructure is required to provide on-site power allowing the CIHT cell to be autonomous.

Reactions occur at both the anode (negative electrode) and cathode (positive electrode) that cause ions to flow through the electrolyte (ion conductive medium between the electrodes) and electrons to flow in the external circuit such that the overall result is the formation of some hydrinos from hydrogen of the reactants. No extreme conditions nor precious or exotic materials are needed. Less than 1% of the electrical energy gain is needed to electrolyze the water for producing the hydrogen fuel.

A CIHT electric car is expected to have a range of 1500 miles on a liter of water, or 2500 miles with a 20-liter, 100 atmospheres of pressure hydrogen tank. The weight of the power train would be about half the weight of an internal combustion engine. The projected 200-kilowatt (267 horsepower) CIHT stack cost is \$4,600, and \$9600 for the entire electric drive system.

References:

Two files, 153 pages of “102 Electrical Energy Innovations” and 262 pages of “Space Travel Innovations”, are available for free downloading at padrak.com/vesperman and commutefaster.com/vesperman.html.