

# Faraday Ltd. Company

Russia 2001 - 2010

# About us

- The company was established in Moscow, March 14, 2001 by Alexander V. Frolov. In 2002 we started activity in St.-Petersburg. Our printed Russian-English magazine New Energy Technologies has subscribers in 15 countries. In 2010 the company was relocated in Tula, Russia.



- General investor from 2002 was Dr. Christopher Bremner, Australia. Mainly he was interested in research on nature of gravitation and alternative energy technologies.

# A. Our projects in aerospace

- Electric capacitor with asymmetry (gradient)
- Inertial propulsion unit
- Entropy gradient propulsion unit
- Superconductor antigravity effects

## B. Alternative energy sources

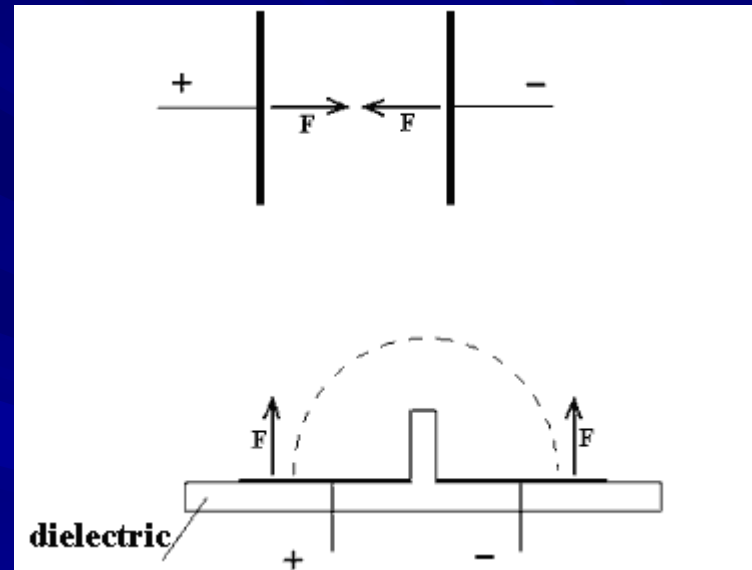
- Unipolar generator based on vacuum tube
- Heat energy source, using hydrogen dissociation-recombination
- Magnetron heater
- Environmental heat energy conversion
- Magnet rotor generator
- Resonance electrogenerator
- Magnet transistor

## C. Other projects

- Macrofiber composite in power generation
- Electrolyser as self-running power source
- Experiments on time rate control (4-D force)
- Radioactivity can be decreased by cavitation

# A1. Electric capacitor with asymmetry (gradient) of E-field

- Electric interaction (attraction of two charged plates) can be used to get co-directed forces for the both plates. At first it was published in 1994, New Energy News, USA by Frolov.



# Experiments

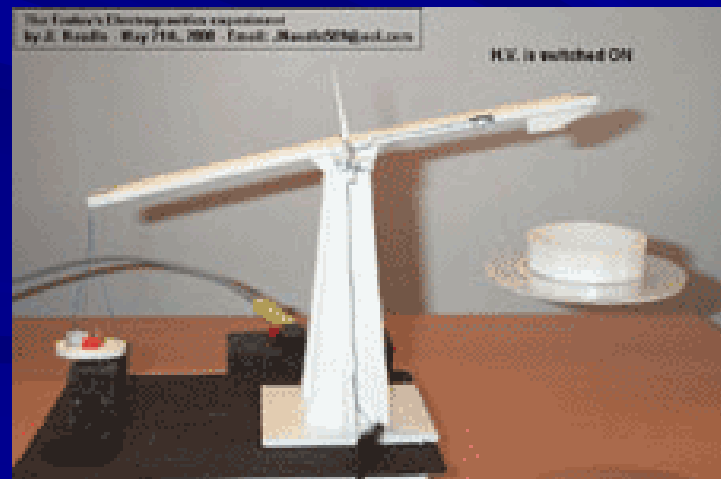
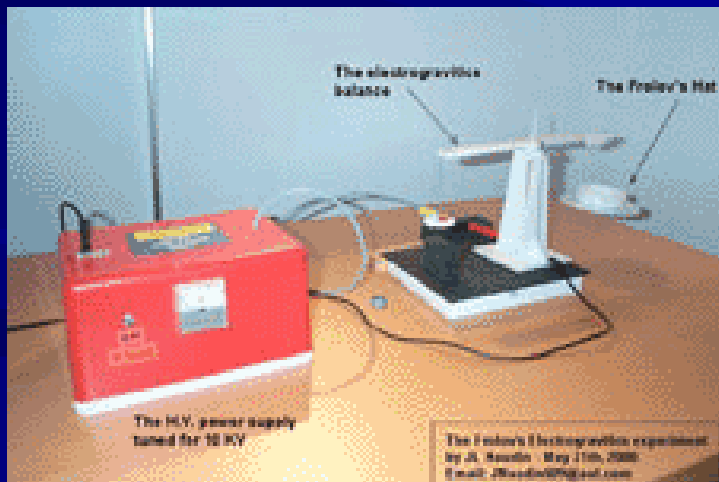
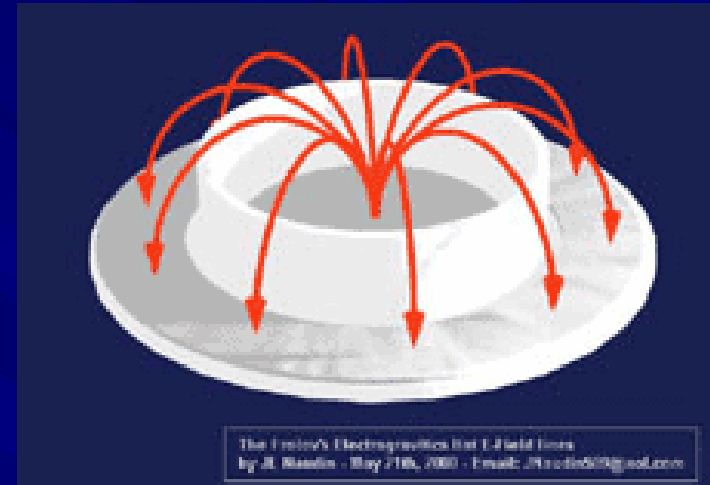
- Experiments of 1998, Russia. Propulsion force was detected and demonstrated for Toyota aerospace experts by Frolov.



A1. Electric capacitor with asymmetry (gradient) of E-field

# Confirmation

1. Experiments in France, Jean L Naudin laboratory.
  2. Zoltan Losonc, Hungary.
- This design is named as “Frolov’s capacitor”

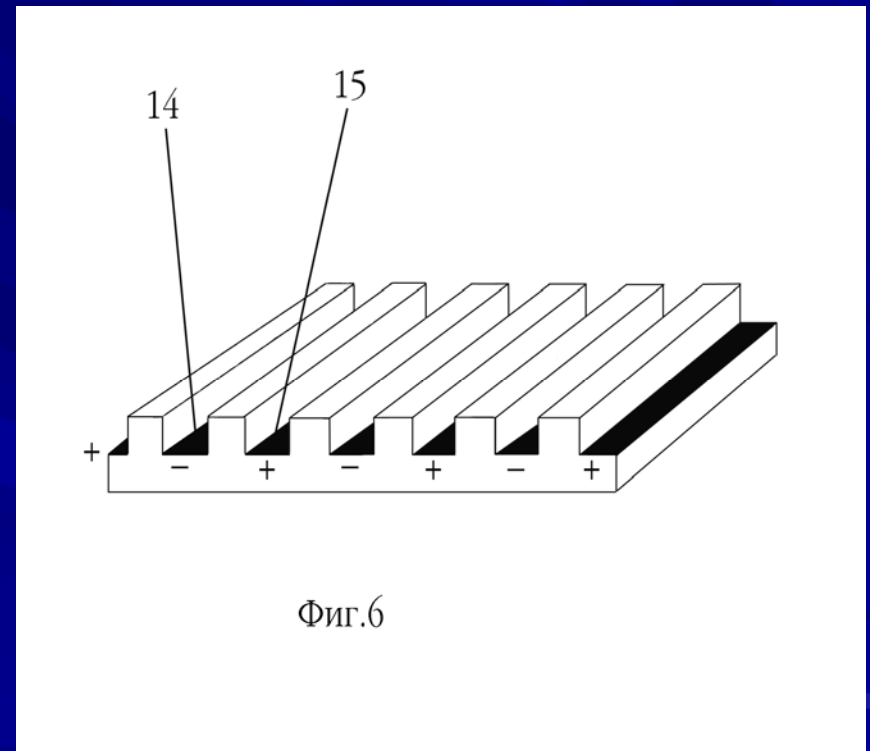


A1. Electric capacitor with asymmetry (gradient) of E-field



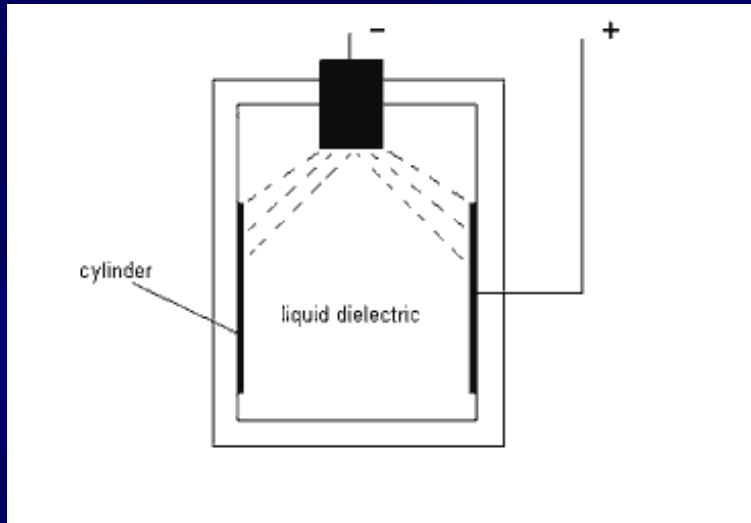
# Development

- Investigation on the best materials for the capacitors to create effective and low cost propulsion units.
- Miniaturization of the capacitors to get film or plate as battery of such propulsion units.
- Preparation for international patenting.
- Production and sales.

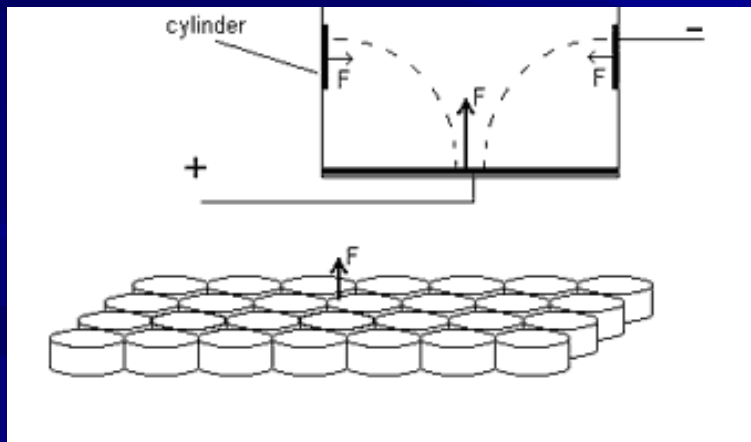


A1. Electric capacitor with asymmetry (gradient) of E-field

# Liquid dielectric capacitor

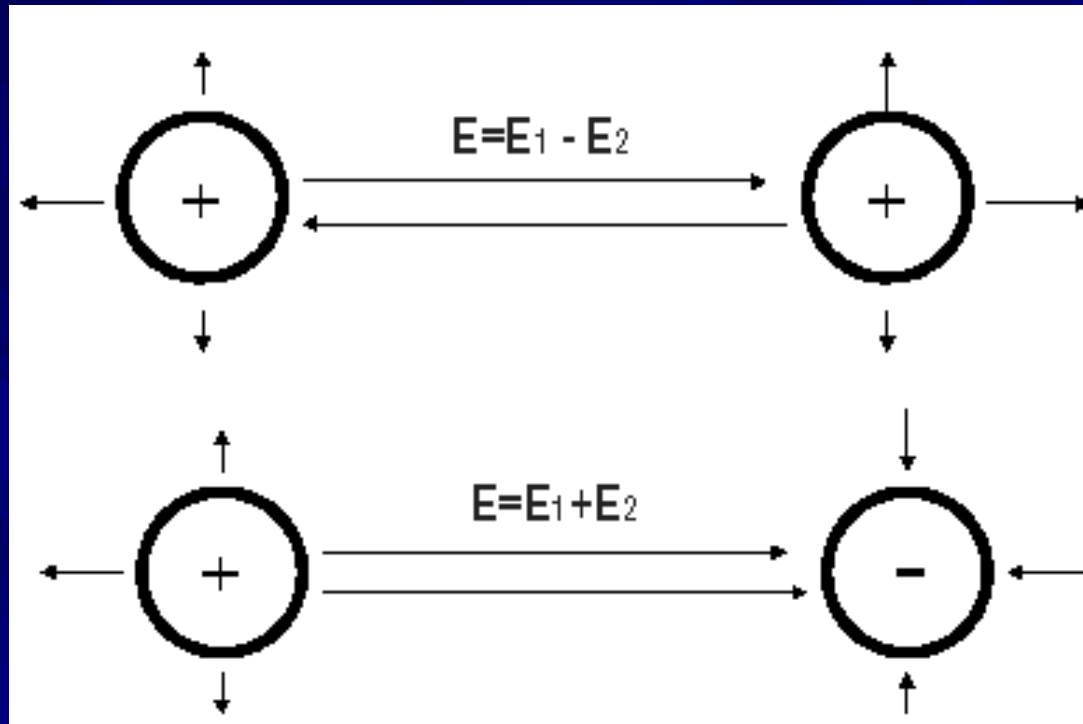


Experiments on non-reactive propulsion force also were produced with liquid dielectrics. Result is about 0.4 gram force in simple device powered by 10KV source.



Development of the technology also can be made by miniaturization method. It is necessary to patent and develop for commercialization

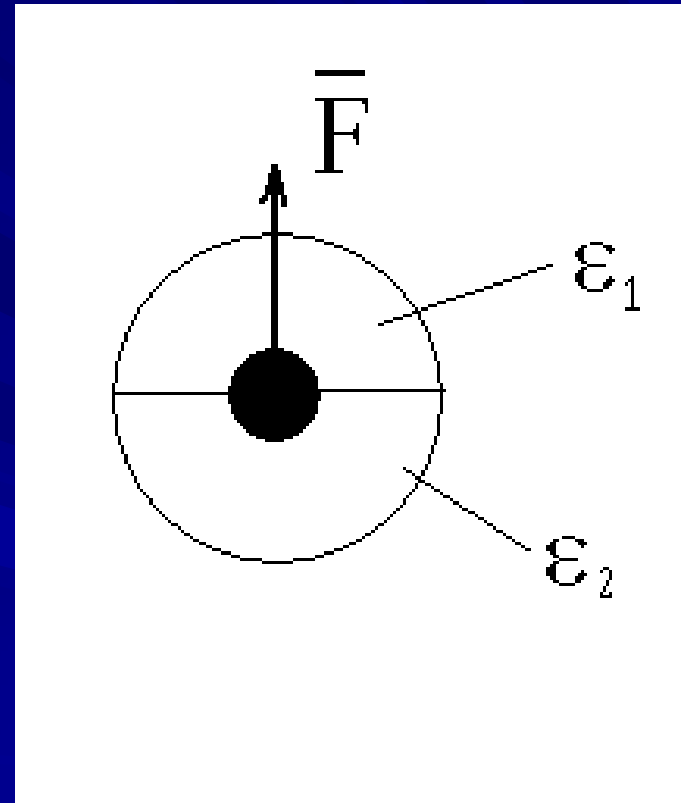
# Some theory: Electric interaction principles



**IMPORTANT NOTE:** Electric interaction is considered by Frolov as result of aether pressure gradient acting on each interacting body. It is not direct interaction between two bodies.

# Gradient of aether

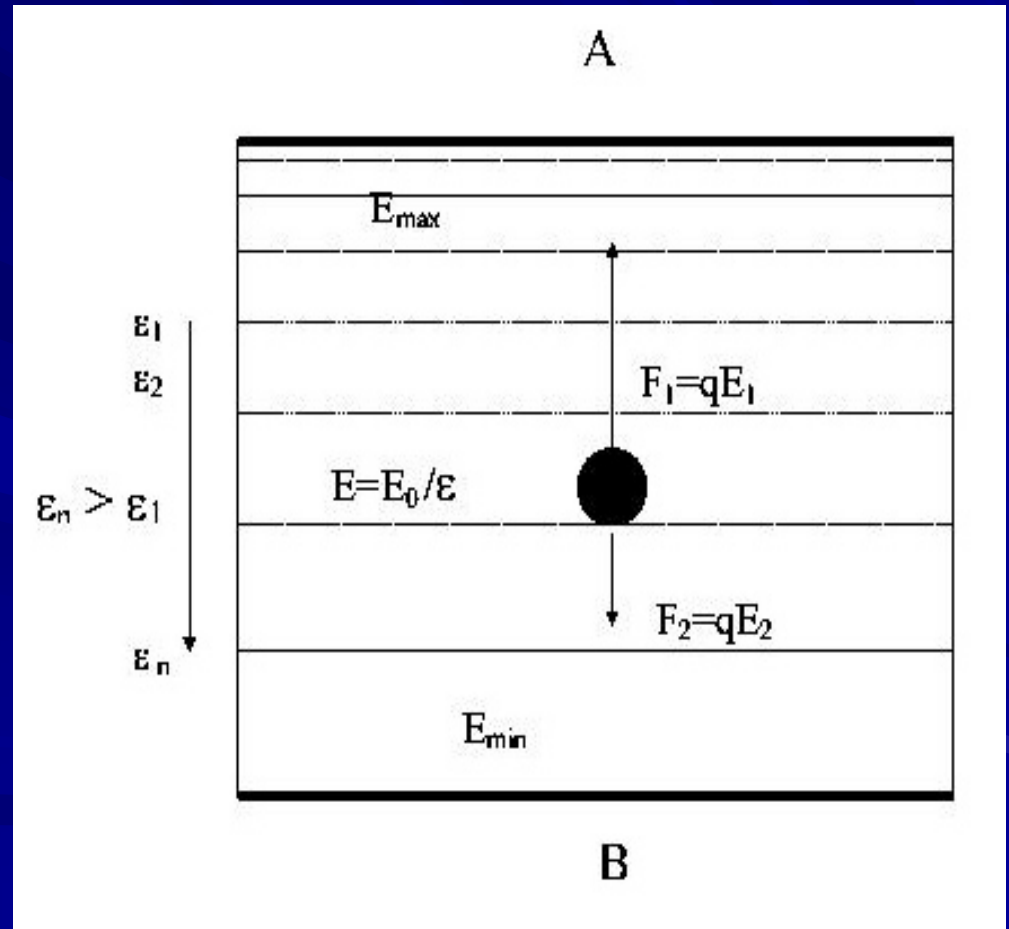
- By this way we can use gradient of aether pressure to create non-compensated force for the case of single electrically charged body by means of special dielectrics. Simplest case is two different dielectrics.



# Gradiental dielectric

Gradual change of dielectrical permittivity is best method to get non-reactive propulsion force.

For each particle of dielectric there is non-zero sum of acting forces.

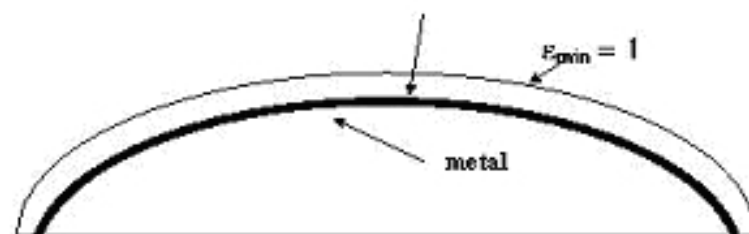


# Calculations

Calculations for the case of 100 square meter surface: We can estimate active propulsion (lifting) force about 80000 kg.

Note: it is not necessary use power input from external source after we provided electrical charge to this single terminal capacitor. The force is almost free of input. The efficiency depend of electrical losses in dielectrical material.

anisotropy dielectric  $\epsilon_{\max} = 80$



$$F = qE_0 (1/\epsilon_1 - 1/\epsilon_2)$$

$$\epsilon_1 = 1 \quad \epsilon_2 = 80 \text{ (ceramic)}$$

$$\text{Square } S = 100 \text{ m}^2$$

$$\text{Capacity } C_0 = 10^{-6} \text{ F} ; C = \epsilon_2 C_0 = 8 \times 10^{-5} \text{ F}$$

$$\text{Potential } \varphi = 10^5 \text{ V}$$

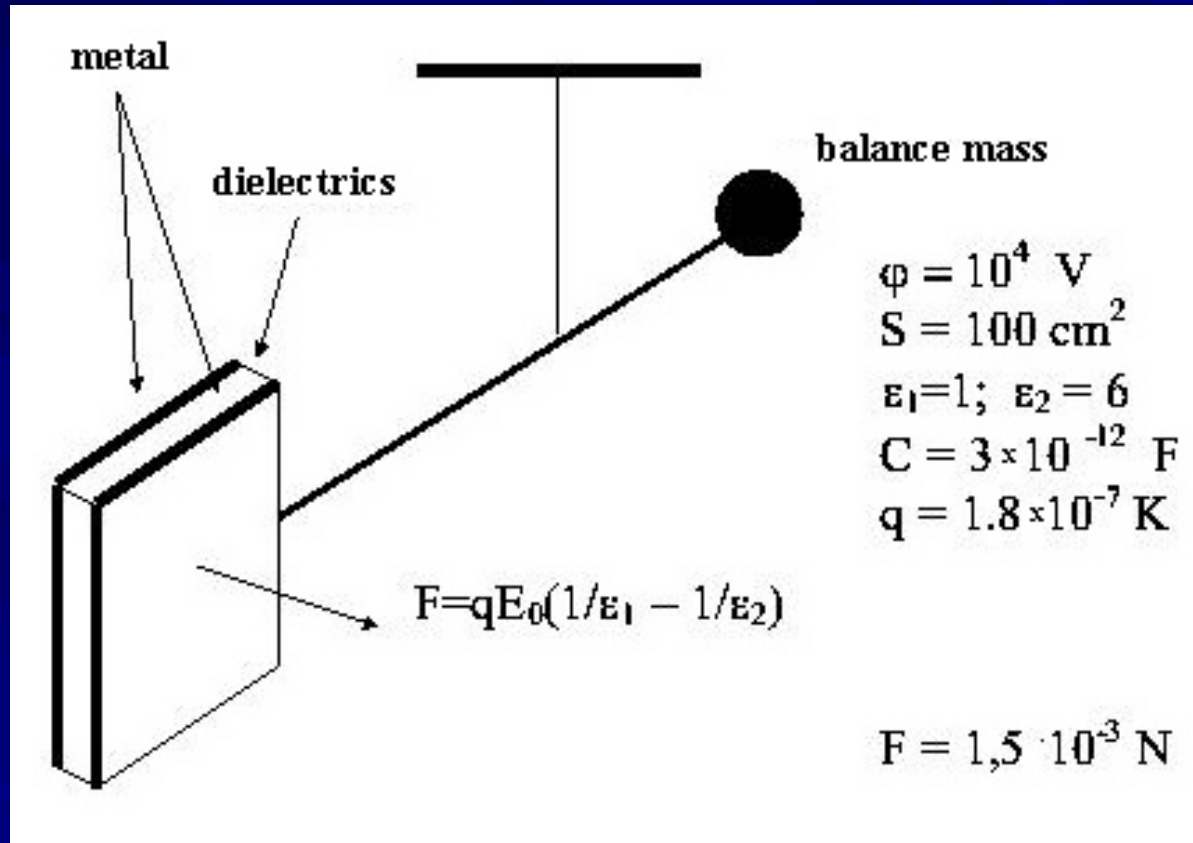
$$\text{Charge } q = CU = 8 \text{ K}$$

$$\text{Intensity of the field } E = 10^5 \text{ V/m}$$

$$F = 8 \cdot 10^5 (79/80) = 7.9 \times 10^5 \text{ (N)}$$

$$F = 7.9/9.8 \cdot 10^5 = 80 \text{ T}$$

# Experiment



## ■ Experiment with simple two-layers dielectric capacitor

A1. Electric capacitor with asymmetry (gradient) of E-field

# Conclusions on point A1

- The technology can be used for creation of aerospace propulsion units.
- There is no significant air ionization to consider the force as result of reactive ions flow.
- There is no power consumption after the capacitor was charged. The force is acting for free.



## A2. Inertial propulsion unit

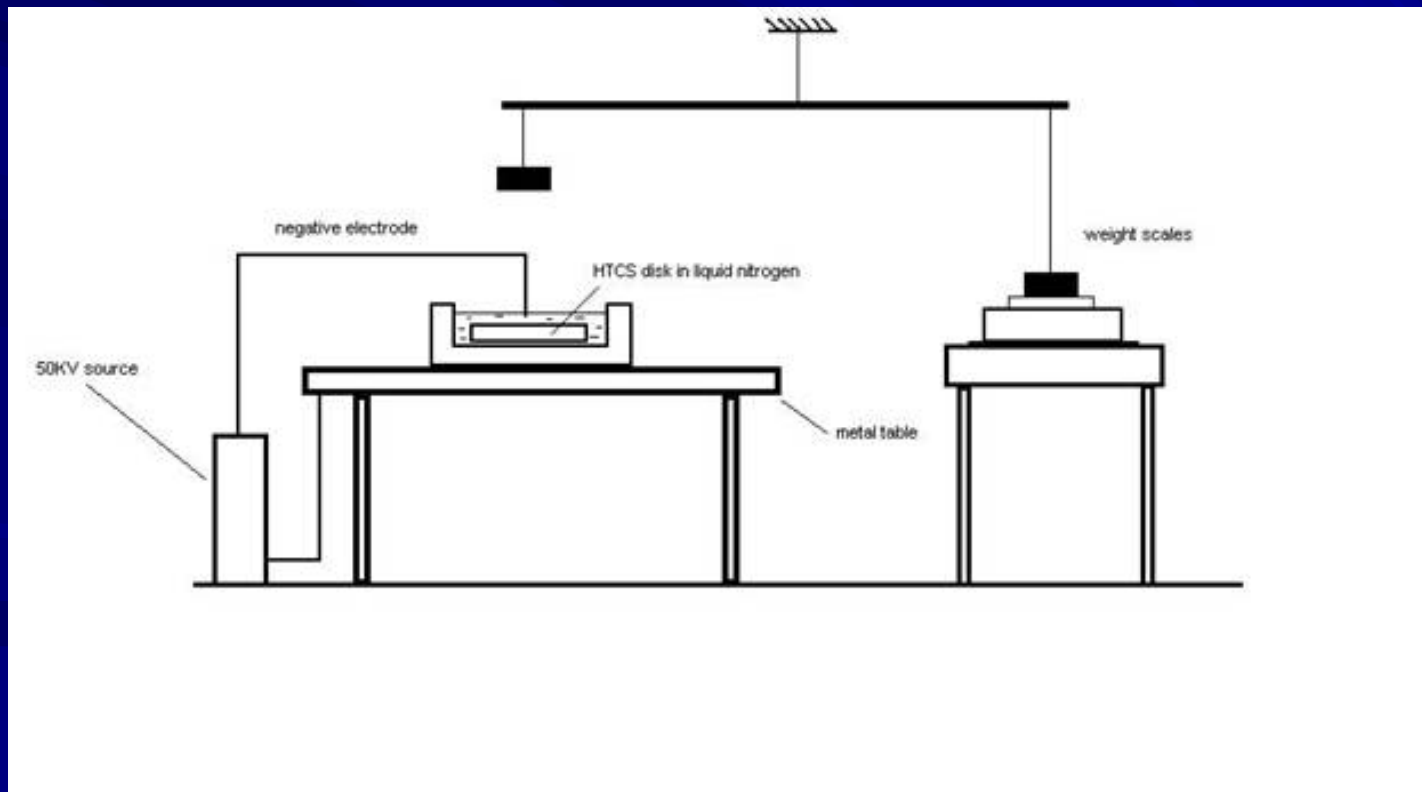
We have started in 2002 with solid state rotating inertial mass (balls) moving with variable radius.

Then we'll develop liquid rotating mass technology, described by Dr. Poliakov. It is also VARIABLE RADIUS method. The effects were tested in small device of 50 gram liquid rotor.



# A3. Superconductor and antigravity

We tested several methods to get weight (mass) changes in relation with electric (arc) and electromagnetic (field) interaction onto high temperature superconductors  $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$

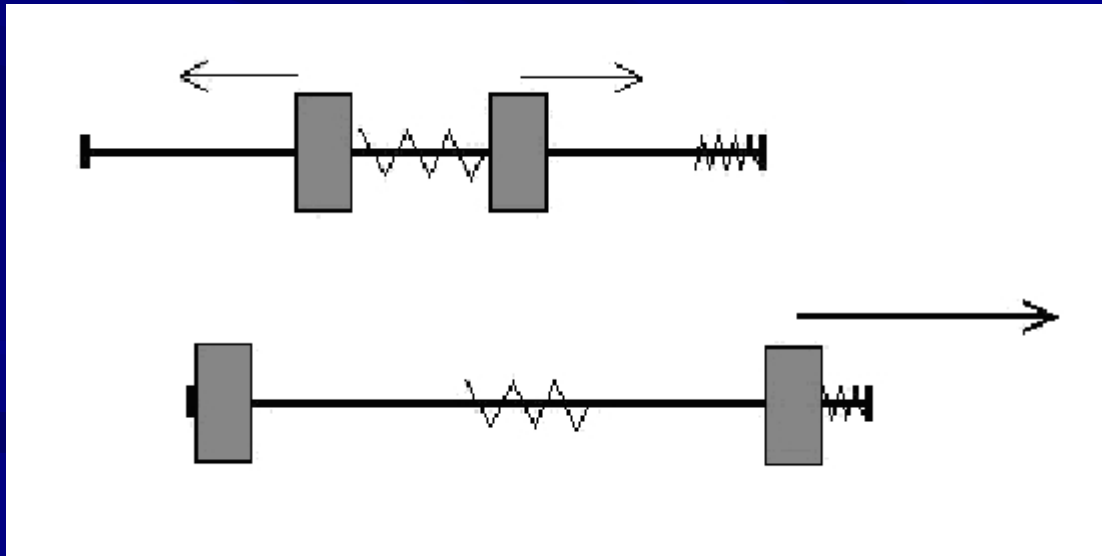


## Conclusion on point A3

- There is positive effects in the case of rotation of the HTCS disk in axial permanent magnet field. It can be explained by consideration of local gradient of Bose condensate density in the disk due to Lorenz force. Oscillations of this density due to rotation for the disk can generate gravity wave in axial (vertical) directions above and below the permanent magnet.
- Main task of the project was to find resonance effects in 10-100MHz frequency range that is confirmation of Bremner theory. Some effects were detected for 1KHz and 30MHz frequencies. To get more reliable data it is necessary to increase power of electromagnetic field.
- Also some results were detected for the case of electric arc acting onto HTSC disc.

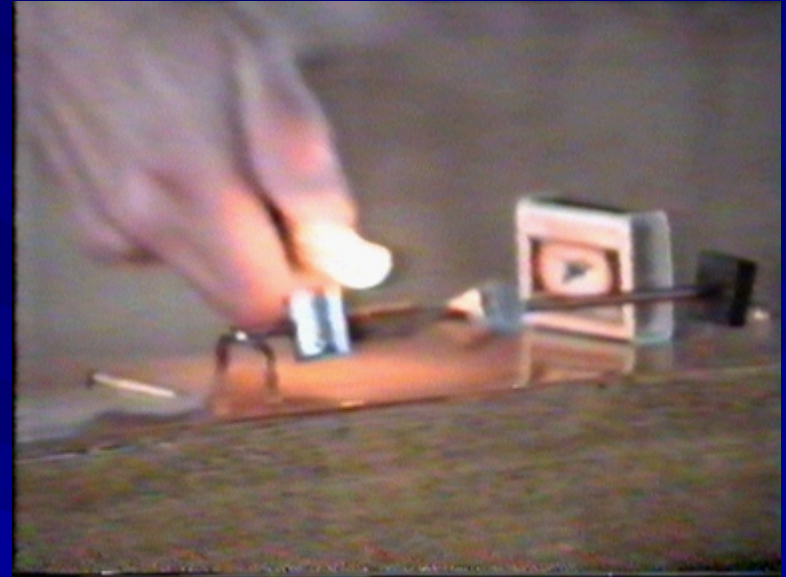
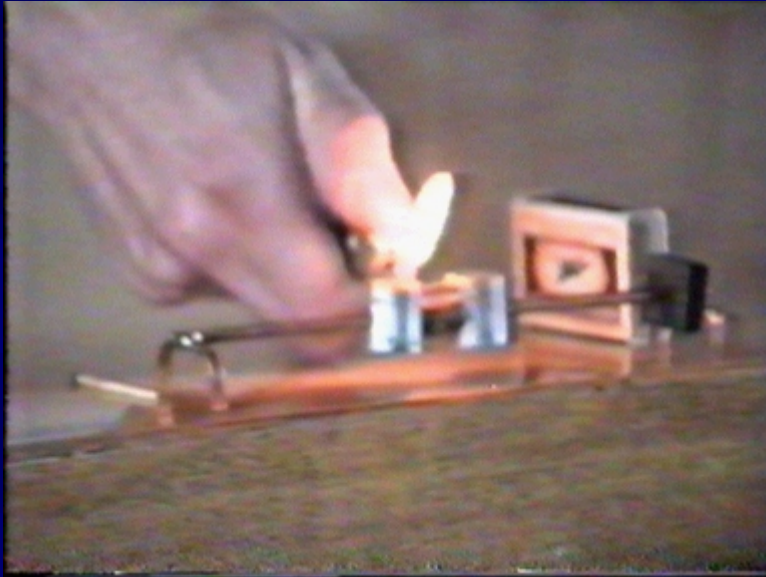
## A4. Entropy propulsion unit

- The idea and experiment were presented in Popular Science, vol. 126, 1935 (two interacting bodies). Right side is elastic interaction (impulse) but left side is deformation (impact). Quantity of heat produced in left side and in right side is different. It is gradient of entropy.



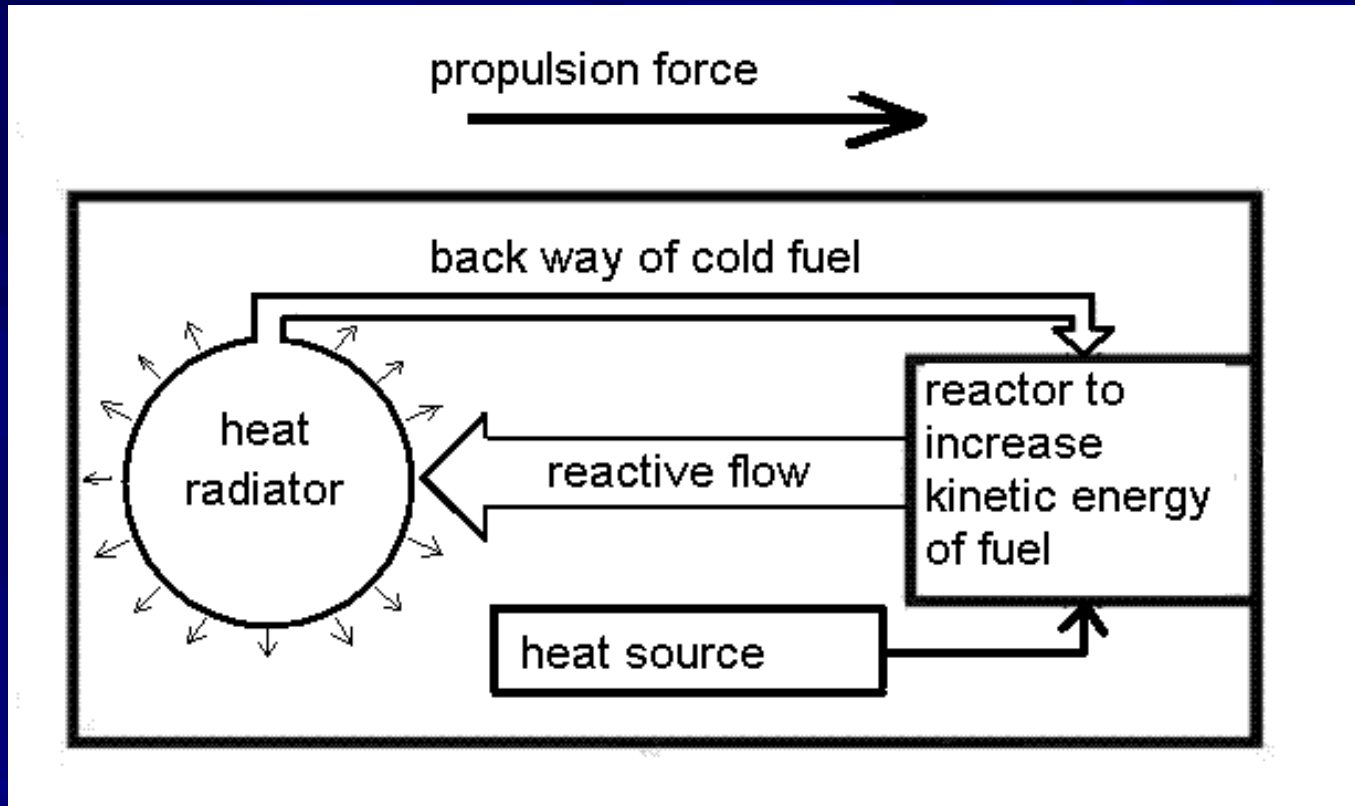


## A4. Simple experiments



Two interacting bodies and spring between them. Left photo: spring is compressed by thread. After the thread is burned, the bodies are moving to left and right sides. Right side is elastic interaction and it allow to get more propulsion force. Left side is impact interaction, here is more heat output due to deformation process (transformation of kinetic energy). Experiment made and explanation by Alexander V. Frolov in 1996.

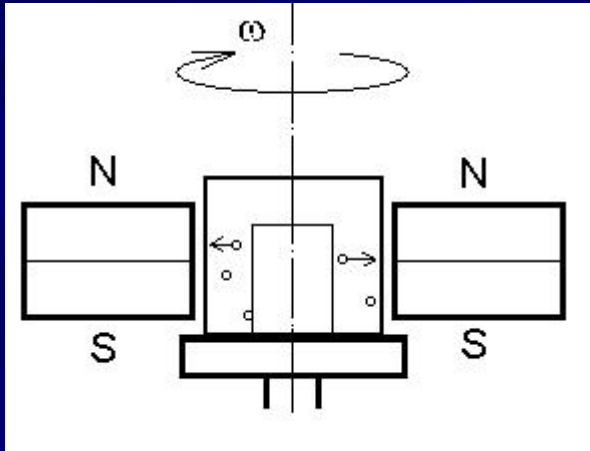
## A4. Development of the idea to design



Propulsion unit idea for powerful spacecraft was presented by Alexander V. Frolov in 1996, International Congress "New Ideas in Natural Sciences". Heat onboard source is necessary but we can use closed cycle of fuel (reactive mass flow).

# B. Alternative energy projects

## B1. Vacuum tube unipolar generator



Rotation of hot cathode in magnet field produce powerful current in anode-cathode circuit. Output power can be more than input power. Experimental data of 2002, Faraday Ltd.

## B2. Hydrogen dissociation-recombination

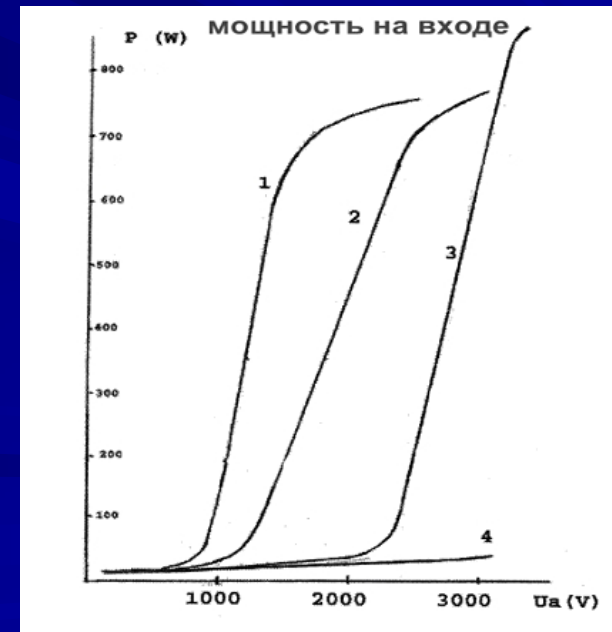
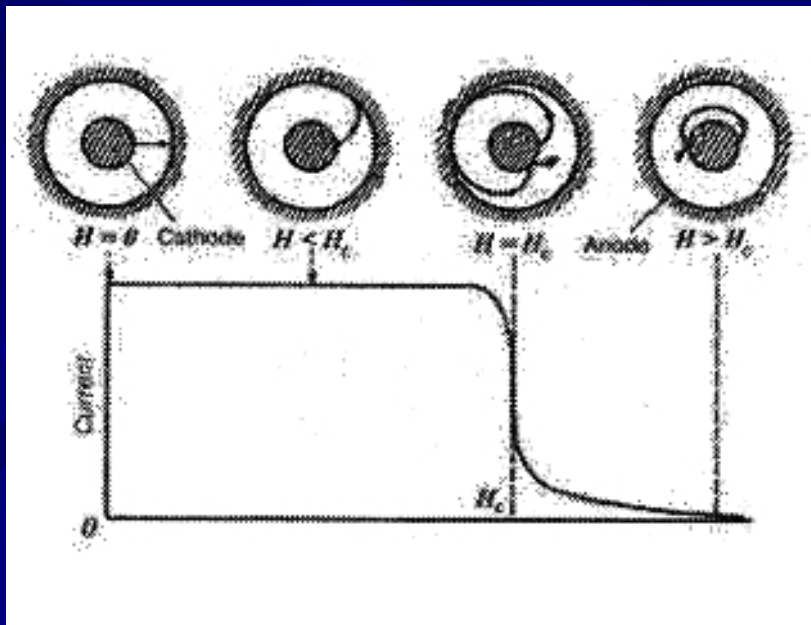


Hydrogen dissociation-recombination is high efficient method of heat generation and it can be used with steam machines and turbines and electrogenerators to provide electricity. Theoretical efficiency is 83 to 1, i.e. we can estimate 82MW power output in load using 1MW for own needs of the power plant to provide its operating fuel-less mode. It is important to note that the hydrogen recombination process does not involve a consumption of the hydrogen as it is not combusted in the process. The secret is low energy dissociation methods.

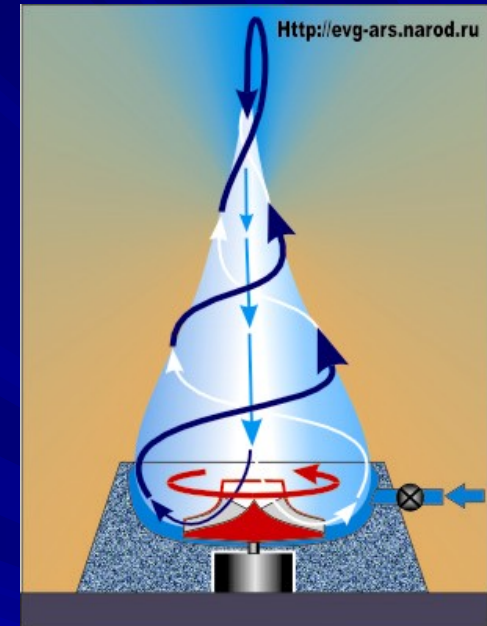
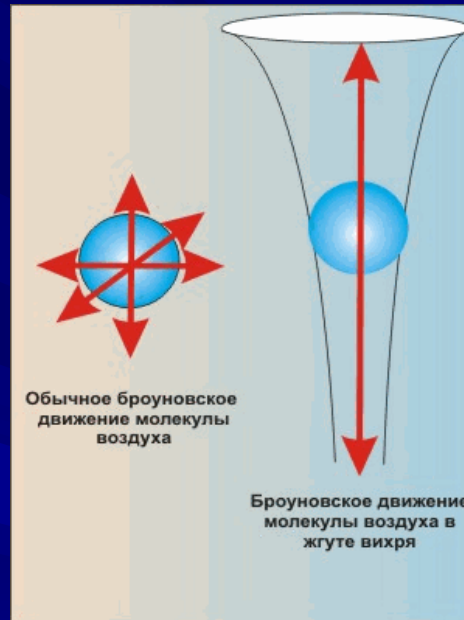
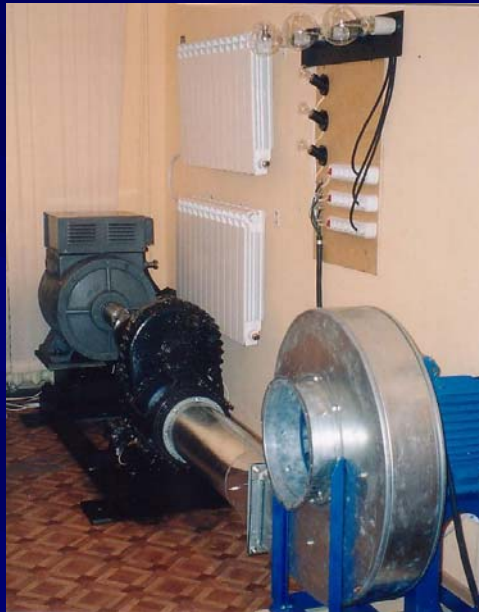


## B3. Magnetron heater

The idea is to use special “non-current” mode of magnetron operation. In this mode we have to use powerful magnets. Cathode is self-heated by secondary electron bombarding and in this mode there is no current between anode and cathode, input power is very small. We experimented to prove this conception and reliable positive results were obtained. Commercialization require designing work. Usual magnetrons are not designed for this mode of operation.

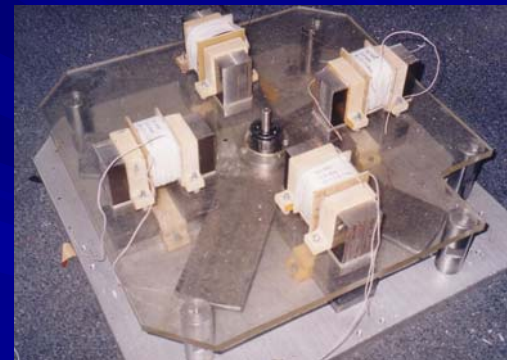
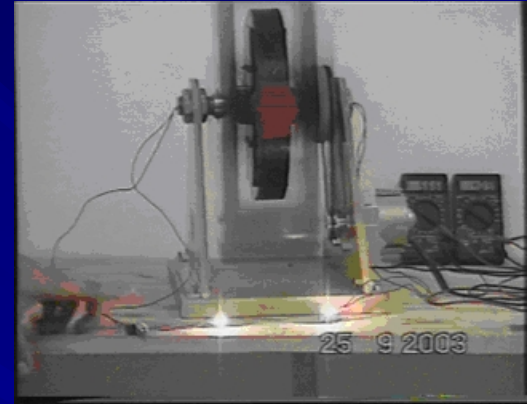


## B4. Environmental heat energy conversion



We experimented with device of 50KW power level to test the idea of environmental heat energy conversion. It seems to be possible to take kinetic energy of air molecules and use this energy in turbine of electrogenerator. Self running mode is possible. New experiments are planned and we need partners for this topic.

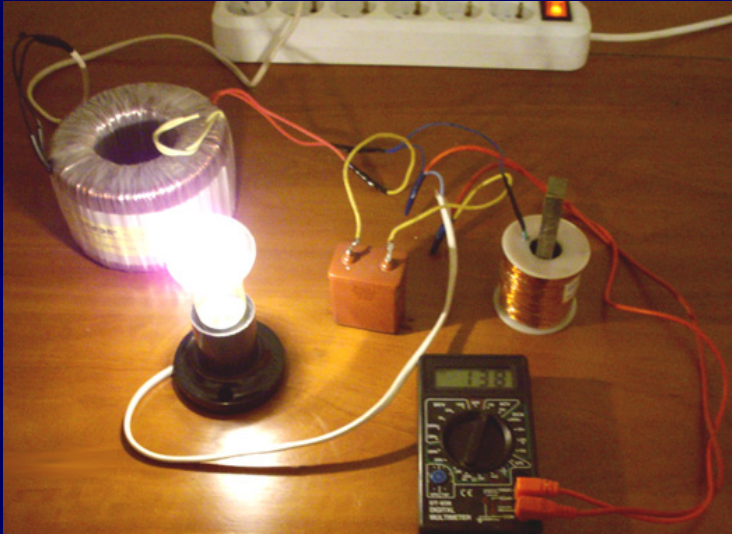
## B5. Magnet rotor generator



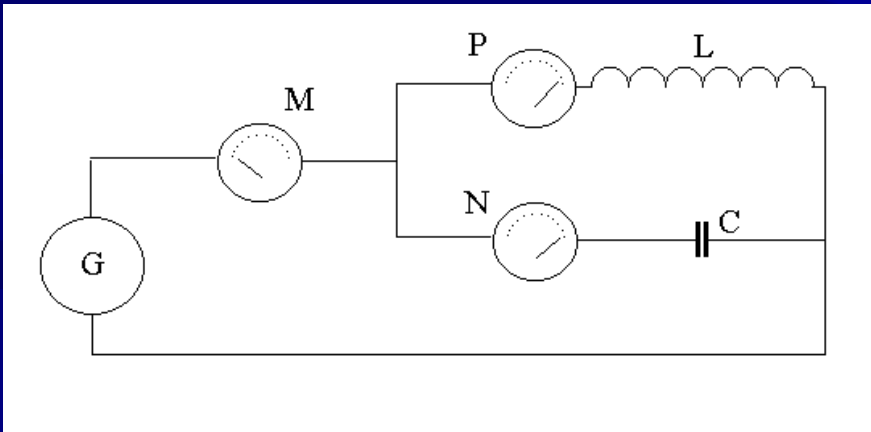
We designed several magnet rotor generators. Main goal is to confirm idea of self-accelerating mode of operation. According to Frolov's theory it is possible for the case of acceleration of rotor by interaction with secondary magnetic field. By this way E.M.F. in generator coils and secondary induction magnetic fields are designed to accelerate the rotor.



## B6. Resonance electrogenerator

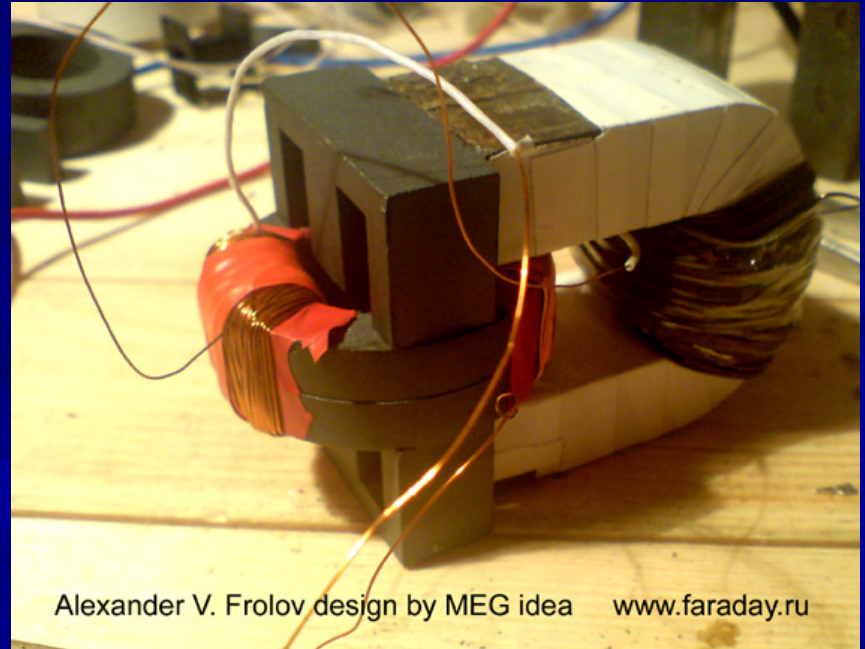


We tested several resonance electric circuits to get conclusion: reactive current in LC circuit can be more than input current and it can be used to create powerful magnetic field producing useful work in load. Experiments also were made by our partners Stepanov Lab in Orenburg, Russia. They have demonstrated 12KW load powered by 1.2KW input.



## B7. Magnet transistor

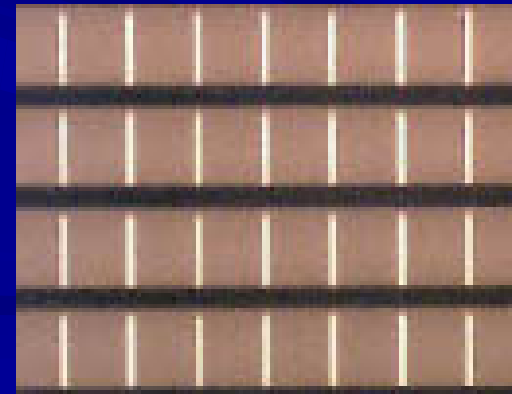
- Modern experiments on this topic are named as MEG (motionless electromagnetic generator) using change of magnetic resistance to control permanent magnet field in area of secondary coils to generate E.M.F.



In 1960-th this technology was named as “magnet transistor” or “fluxor” and it was used in powerful current amplifiers. We designed and tested several different experimental devices to see what design is better for application of usual non-expensive ferrite materials in this type of energy generator. The theory was confirmed but we did not reach yet self-running mode of operation.

# C1. Macrofiber composite for power generation

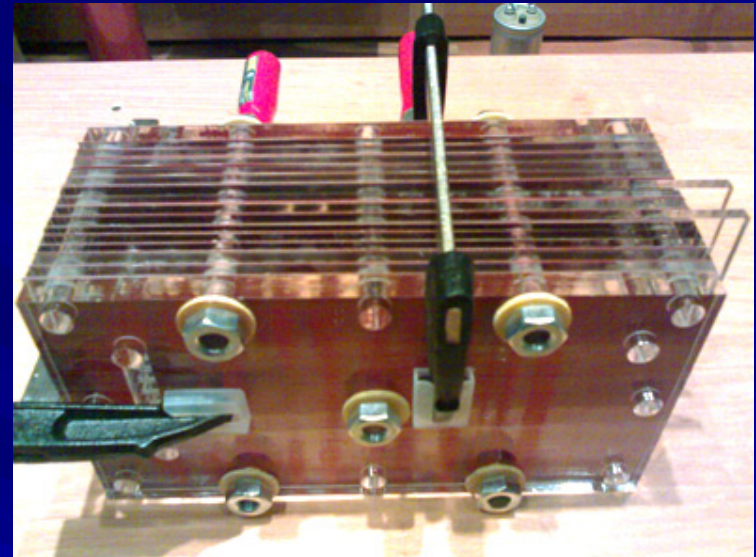
- The Macro Fiber Composite (MFC) is developed by Smart Material Corp., Sarasota FL, USA.
- We started experiments and we have plans to use in our project piezoelectrical actuators MFC to change magnetic field intensity in area of generator coils.





## C2. Electrolyser power source

- Experimental data from our partner Petrov laboratory let us hope to get self-running mode of dissociation of distilled water. We have started own research on the topic and also we try to develop marketing for Petrov product. Their level of technology is 100W demo unit and 1000W is planned for sales in 2011.



The technology is based on facts of current-less activation of water. After impulse of high voltage current-less activation we can take some power from electrolyser (it works like accumulator) and then push it with new activation impulse. By this way water produce gas and electricity for free. No input!

This method also can be used to generate commercially profitable hydrogen  
**spending only 20W per 1m3 of gas**

# C3. Experiments on 4-dimensional force (time rate control)



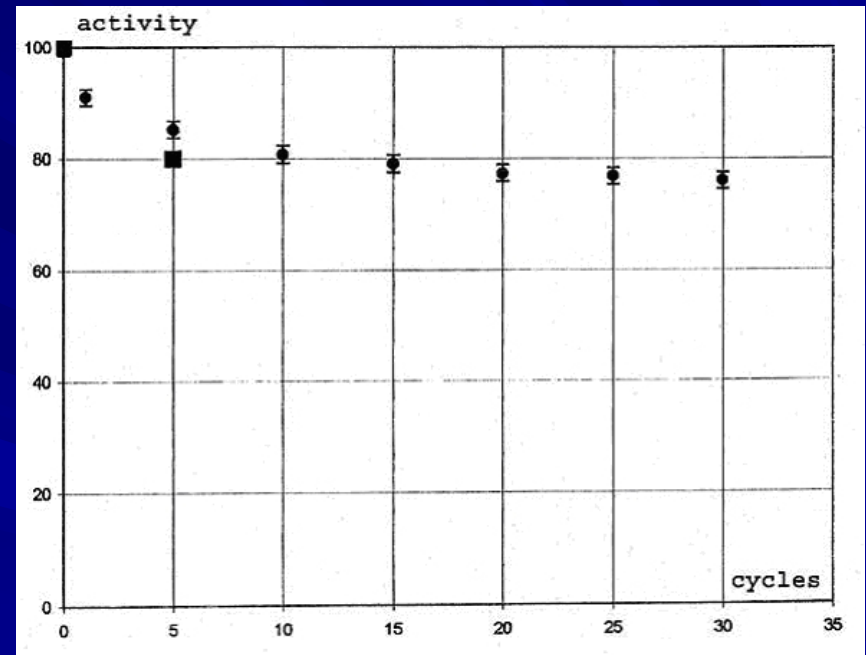
This methods and devices are to provide control on rate of physical processes (that includes the process of the existence of matter in spacetime) by means of increasing or decreasing of energy density of space (i.e. energy density of physical vacuum or density of the aether). Designed by Dr. Chernobrov, made by Alexander V. Frolov in Faraday Ltd. Company, Russia, 2003.

Effects were detected as 3-5% changes in time velocity.  
Applications: medical effects and antigravitation propulsion. New methods to generate 4-dimensional force was proposed by Frolov.



## C4. Cavitation method to reduce radioactivity level

- We have tested possibility of reduction of radioactivity level for the case of cavitation of liquid radioactive matter.
- Results were positive: during 10 hours of cavitation process in 5KW cavitator we detected 20% decrease of radioactivity.
- Experiments were made by our technical task in St.-Petersburg University according to Contract with Faraday Ltd. Company in 2006.



# Our needs and proposals

- We need partners with professional interest to topics of our research projects. We hope your technical facilities, research laboratories and high level professional staff allow us to develop our initial results and ideas to commercial product.
- We offer joint patenting, joint research projects and also new joint companies on the topics of your interest.

# Our Contacts

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