<u>The main Problem of Mr. Chmela's electrostatic Vacuum-energy-rotor</u>

(in the moment I do not know whether this is the only problem of his rotor)

Obviously his rotor is attracted by the electrostatic field source. In my theoretical work, one of the conclusions states, that there are two forces. One of those both forces results in a torque making the rotor spin, the other force is an attractive force between the rotor and the field source, which causes a parallel shift of the rotor. In my experiment I observe this second force because it lifts the rotor a little bit towards the field source, so that the immersion depth into the water or into the oil is reduced a little bit as soon as the high voltage is switched on. This lifting-movement needs a time which is roughly estimated about $t=(2\pm1)\sec$. (The value of this durance varies as a function of the applied voltage.)

The machine power to perform this lifting-procedure can be easily estimated as following:
Force $F=m\cdot g=2\cdot10^{-2}\,Newton$ (with a rotor of about 2 Gramms)
Power $P=F\cdot v=F\cdot\frac{h}{t}=2\cdot10^{-5}\,Watt=20000\ nanoWatts$
This is of course only a rough estimation of the order of magnitude, and we have to keep in mind, that there is an additional portion of machine power with regard to the viscosity of the oil.

This estimation of several ten thousand nanoWatts is of course only classical energy, which is implemented when switching the high voltage on. It will be given back as soon as the high voltage is being switched off and the rotor goes down (to its original depth) into the oil again.

But – and this is the crucial point here – this estimation demonstrates, that the rotor in the Chmela-experiment is interacting with his magnetical bearing remarkably as soon as the high voltage is switched on – increasing the force of friction remarkably as soon as the high voltage is applied. And now we have to take the coefficient of friction into account and radius of the force transmission in order to calculate the torque due to friction. If we for instance assume a coefficient of friction of $\mu=0.2$ and force transmission radius at the magnetic bearing of $r=10^{-3}m$, we will come to a torque in the order of magnitude of about $M=\mu\cdot F\cdot r=0.2\cdot2\cdot10^{-2}N\cdot10^{-3}m=4\cdot10^{-6}Nm$.

Nota bene: This is the torque, by which friction is enhanced as soon as the high voltage is applied. Because there are many experimental parameters to be varied, this is only a rough estimation of the order of magnitude.

First of all, it is now clear, that the high voltage causes two torques, which are almost the same strong. One is the torque of friction and the other one is the torque due to the conversion of vacuum-energy. And both are acting against each other. And it is just by chance which of the both torques is the stronger one. The real setup decides about the question, whether the first or the second torque will dominate, resulting in the first case in reducing the angular velocity of the rotor but in the second case in enhancing the angular velocity of the rotor.

The following numerical example would be imaginable:
Driving engine power from the conversion of vacuum-energy → 200 nanoWatts.
Slowdown power due to friction when the high voltage is switched on → 210 nanoWatts.
Altogether (power-sum) the rotor is decelerated with → 10 nanoWatts as soon as the high voltage is switched on. This imaginable scenario is rather similar to the observation of Mr. Chmela, described on his internet-page (found at June – 07 – 2009).

Additional remark: The real importance of the argument regarding the friction due to attractive forces between the rotor and the field source is known from my own experiments: Sometimes (depending on the value of the high voltage), the attractive force between the field source and the rotor is so strong, that the rotor soars towards the field source against gravitation. I observed this with the rotor swimming on oil in the same way as with the rotor on a toe bearing. I did not like this problem, because it disturbs the experiment.

I wish very much, that Mr. Chmela will succeeds in performing his investigations until he will have a further development of the Electrostatic rotor (for the conversion of vacuum-energy) with an oil-free bearing.

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