

## **Homopolar Generator, G Test, and Least Quantum Electrogravitational Velocity**

**Date: 1/3/2002 . (Last update Jan. 05, 2002)**

**The Homopolar Generator is simple in construction and yet provides a result that is still not fully understood. Briefly, when a conductive copper disk is rotated through a magnetic field supplied by a similar disk shaped permanent magnet so that the field of the magnet cuts through the disk of copper at 90 degrees, a voltage and current flow between the center of the copper disk axis of rotation and the edge of the copper disk. However, when the copper disk is stationary and the disk shaped magnet is rotated, no such voltage or current is generated in the copper disk.**

**Note: A simple experimental build is provided by JLN Labs. Jean Louis Naudin describes it as Easy to Build, Test By Yourself. The test build and description is located at: <http://jnaudin.free.fr/html/farhom.htm> .**

**The test results are counter intuitive and have yet to be properly explained, at least to my own satisfaction. It is possible others may agree that the contemporary relativistic approach explaining the results serve only to muddy the water.**

**It was while reviewing the two fundamental postulates of Einstein that it struck me that since the velocity of light in free space is independent of the motion of the source, (his first postulate), then my derivation of the electrogravitational least quantum velocity may also have the same characteristic as light. (If you are curious about the other postulate, his second postulate was that the laws of physics are the same in any uniformly moving frames of reference.) This has fundamentally important consequences if the electrogravitational least quantum velocity is independent of the source velocity. For example in the case of the spinning disk magnet of the homopolar generator experiment, the velocity of the magnetic (A) vector potential associated with the magnetic (B) flux of the magnet is fixed at VLM velocity, VLM being the least quantum velocity equal to approximately  $8.54 \times 10^{-02}$  meters/sec. Effectively, the field normal from the magnet surface has a phase velocity normal to VLM of  $(c^2) / (VLM)$ . Please note that it is established physics that the phase velocity is equal to the speed of light squared divided by the group velocity. While not infinite, it is much higher than c.**

**Since the VLM (A) vector carries momentum information, it also carries a magnetic component which is fixed at the very low value of VLM. This description of the homopolar action in terms of a fixed low velocity of magnetic**

field component VLM being independent of the speed of the magnetic disc explains why little voltage is induced into the stationary copper disk when the disk magnet is rotated instead of the copper disk.

The De Aquino torus test may also be connected to and explained by the least quantum electrogravitational constant velocity VLM. Please see the Fran De Aquino test description located at JLN labs page: <http://members.aol.com/jnaudin509/systemg/index.html>. The wave velocity in the powdered iron and the annealed iron shell are higher and lower respectively than the least quantum wave velocity VLM such that at the interface between the iron powder and the annealed iron shell there exists a velocity equal to the least quantum electrogravitational velocity VLM. Further, there exists the possibility that when the velocities are equal, the VLM electrogravitational velocity component is canceled which would explain why the weight loss occurred for everything inside (and possibly including) the annealed iron shield.

In conclusion, the existence of dark matter may also be explained by the momentum carrying (A) vector VLM being built up over time throughout space. It has a momentum component and thus a mass component. (According to my previous papers, the mass of the electron is equal to the magnetic permeability of free space times the square of the electron charge all divided by  $4\pi$  times the classic radius of the electron.) Also, the charge of the electron and the permeability of free space figure directly in calculating the VLM (A) vector potential.

Finally, the electrogravitational least quantum velocity predicted by my theory as being associated with the electrogravitational action explains both the homopolar generator action as well as the Fran De Aquino torus weight loss. As a result, a more general approach to a working De Aquino type G test may be verified in the public domain.

**Update Jan. 05, 2002:**

The space tether experiment has provided some unexplained and interesting results where the amount of current generated in the wire attached to a charged satellite at the end of the tether generated more than twice the expected current according to the engineering design estimate. See 'Electric Tethers' at URL NASA: [http://science.nasa.gov/newhome/headlines/ast22jan99\\_1.htm](http://science.nasa.gov/newhome/headlines/ast22jan99_1.htm).

This may be the result of the tether wire receiving an additional flux input via the (A) vector related velocity constant VLM as explained above. The velocity constant of the slow speed VLM least quantum electrogravitational (A) vector

**theoretically would also permeate all of space, not just near the Earth, making tether propulsion possible even in deep space.**

**Comments and questions are welcome.**

**Respectfully,**

**Jerry E. Bayles**

**quark137@aol.com**

**jebayles2001@yahoo.com.**