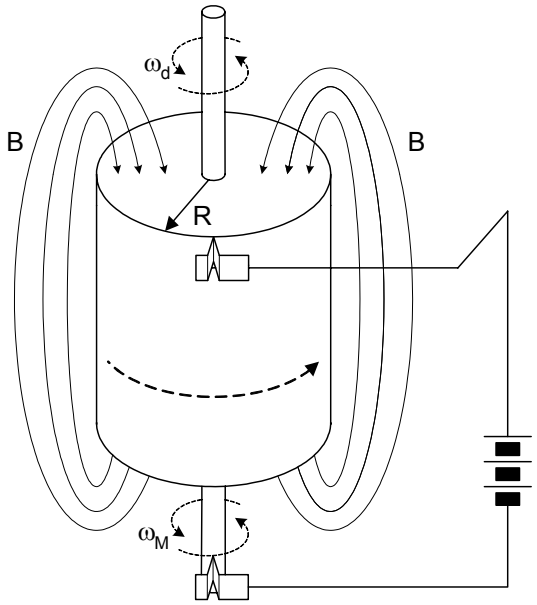
N OR M HYPOTHESIS - FINAL TEST

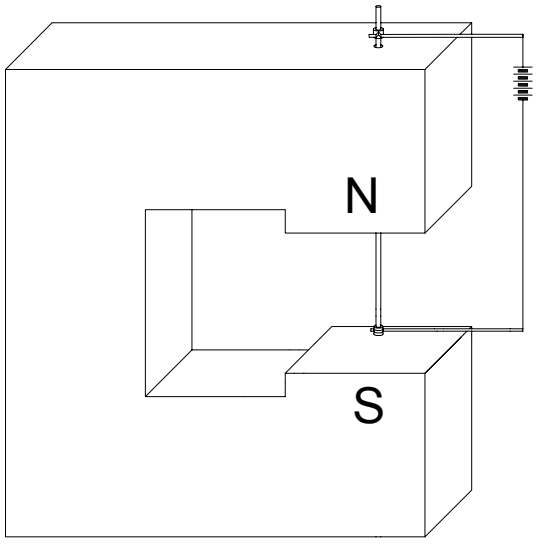
Let we consider following device:

Fig. 1



Permanent magnet is rotating whenever current is running trough it. If we block rotation of the magnet, the out outer contour will attempt to rotate in contra direction. It is not direct proof that field is static, because external part of the electric circuit is also exposed to magnetic field that is propagating trough air to close magnetic lines.
The final proof whether N or M hypothesis is the really valid one is shown on the picture below:

Fig. 2



Machinery is consisted of rigid electric circuit able to perform limited rotation. Outer part of circuit is not exposed to magnetic field and only horizontal bar is. Regarding the N hypothesis the bar will make a limited rotation without interaction with the magnetic field, i.e. with permanent magnet. In regards with M hypothesis magnet will obtain an interaction with rotating contour and whenever we fix contour, magnet will

attempt to rotate in contra direction to preserve Law of Angular momentum Conservation.
Let start from:

$$\vec{dF} = I \cdot d\vec{\ell} \times \vec{B} \qquad (1)$$

Magnetic force that acts to free end of a bar is:

$$F = ½ \cdot B \cdot I \cdot \ell^2 \qquad (2)$$

Or:

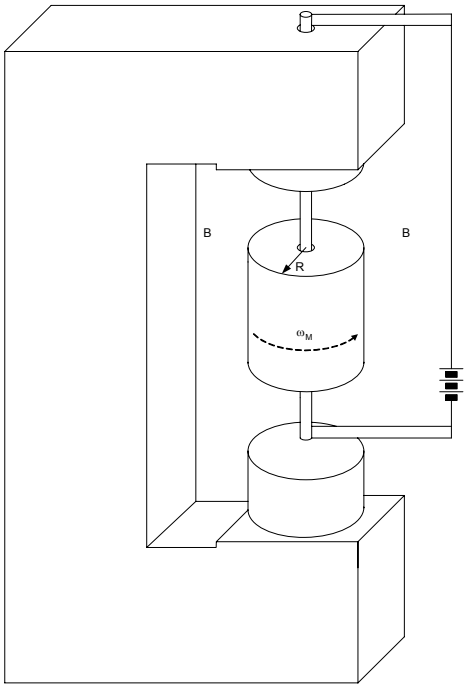
$$F = 0 \qquad (3)$$

Possible solutions are:

1. Contour rotates and there is no contra-force to the magnet – field is static and N hypothesis is still valid. There is no interaction between contour and the magnet. This is disproved: see http://www.andrijar.com/conffield/index.html.
2. Contour rotates and there is contra-force to the magnet – field is movable and M hypothesis is only valid one. There is interaction between contour and the magnet. String hypothesis still may be valid: correct, see http://www.andrijar.com/conffield/index.html.
3. Nothing is moving on at all: this could be described by string theory only. This means that string hypothesis is in charge.

Interaction of magnetic field and vertical part of electric contour diminish generated force. Even more, it can cancel the force at all. The exposition of outer vertical part of electrical circuit to magnetic field can be avoided by the following construction:

Fig. 3



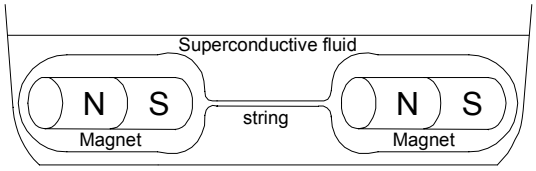
The device is consisted from two magnets, one C permanent magnet and cylindrical one settled in the gap. C magnet and electric circuit's contour are fixed, and

cylindrical magnet is able to rotate. All external magnetic fields are drained to permanent C magnet. Whenever current is running, cylindrical magnet should rotate although there is no current in it. The device is very similar to one proposed by Jorge Guala-Valverde (see http://www.andrijar.com/conffield/index.html), but rod of the device is not fixed to cylindrical permanent magnet. It is fixed to permanent C magnet. In the Guala-Valverde device C structure is not permanent magnet – it is magnetic field conductor which purpose is to preserve leakage of magnetic field into outer space and thus to avoid exposition of external electric circuit to the field. Thus these two devices are completely different.
The Device from picture (3) is pure example of DC motor without brushes with constant current that is possible only due M hypothesis. Its operation is completely impossible within the N hypothesis.

STRING HYPOTHESIS

Although strings' theory is very strange, it is not a complete fiction: first string ever is noticed when two permanent magnets are put into the superconductive fluid – they had obtained interaction trough thin neck with force that did not depend on distance:

Fig. 4



bowl

However, after some distance is reached, the string is cut, force disappeared and it is happening whenever the energy involved to increasing the mutual distance becomes equal to the energy stored in magnetic fields of magnets that interact. SQUID measures quantity of h/(2·e) that might be connected to measuring medium or either to strings themselves:

$$\vec{F} = \overrightarrow{const} \qquad (4)$$

The strings are spontaneously spreading to the areas with suitable targets to be attached on. This predicts that distribution of electric and gravitational field cannot be necessary spherically symmetrical, and that directly involves "Act To Distance" theory. Operation of electric transformer obtained by the theory yields perfect correlation between primarily and secondarily coils, cohesive forces in galaxies are correct and no dark mater is needed, etc. These can be explained by non-uniform distribution of the fields from punctual sources. It can also explain why magnetic field is strictly localized in the closed magnetic circuit, although it is produced by charges in motion and consequently should spread all around.
String theory defines potential as number of strings that a wire intersects per time unit:

$$U = \frac{dN_{\vec{B}}}{dt} \qquad (5)$$

Magnetic field is defined as concentration of strings on the surface:

$$\vec{B} = \frac{dN_{\vec{B}}}{d\vec{S}} \tag{6}$$

Let we start from basic equation of Coulomb field:

$$\vec{E} = \frac{Q}{4 \cdot \pi \cdot \vec{r}^{\,2} \cdot \varepsilon} \cdot \hat{r} \tag{7}$$

Above equation can be rearranged on the following way:

$$\vec{E} = \frac{1}{\varepsilon} \cdot \frac{Q}{\vec{S}} = \frac{1}{\varepsilon} \cdot \frac{dQ}{d\vec{S}} \tag{8}$$

String definition of electric field is:

$$\vec{E} = \frac{dN_{\vec{E}}}{d\vec{S}} \tag{9}$$

Whereas:

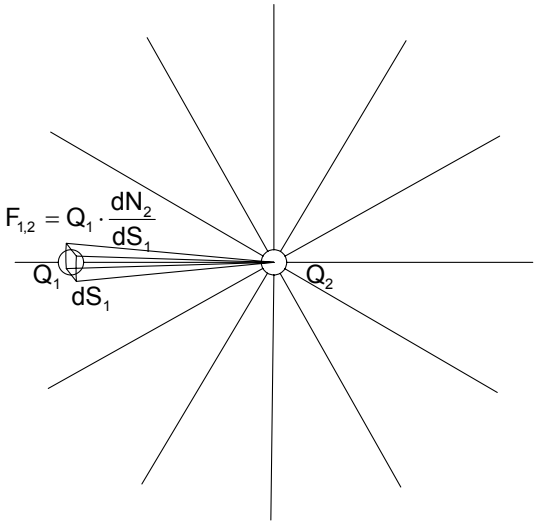
$$N_{\vec{E}} = \frac{Q}{\varepsilon} \tag{10}$$

Force is defined as:

$$\vec{F}_{1,2} = Q_1 \cdot \frac{dN_2}{d\vec{S}_1} \tag{11}$$

This is explained on the following picture:

Fig. 5

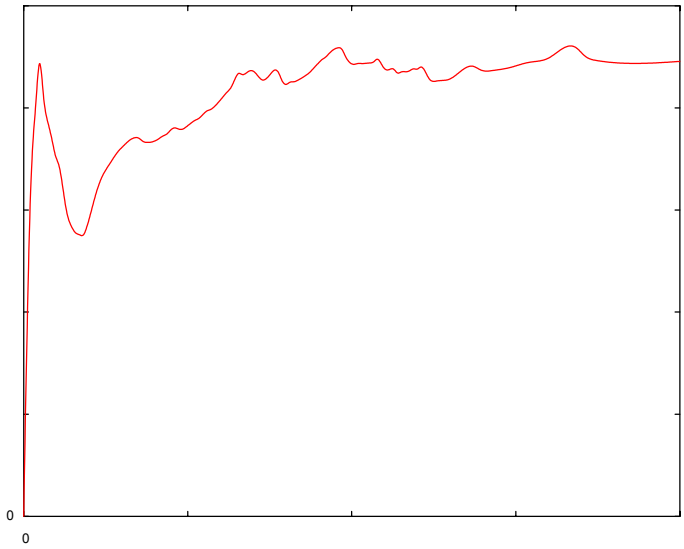


Anent:

$$\vec{F}_{2,1} = Q_2 \cdot \frac{dN_1}{d\vec{S}_2} \tag{12}$$

String theory predicts that distribution of gravity force between stars and planets is not spherical, but more elliptical, squeezed in the area of galaxy's mass distribution. In such case force does not decrease with r^2, but rather with the $r^{1.5}$ or less as Newton predicted too, i.e. most strings are spent to obtain interaction with the neighbors masses and just few ones with other galaxies.
Graph of velocity in galaxy is shown on the following picture:

Fig. 6

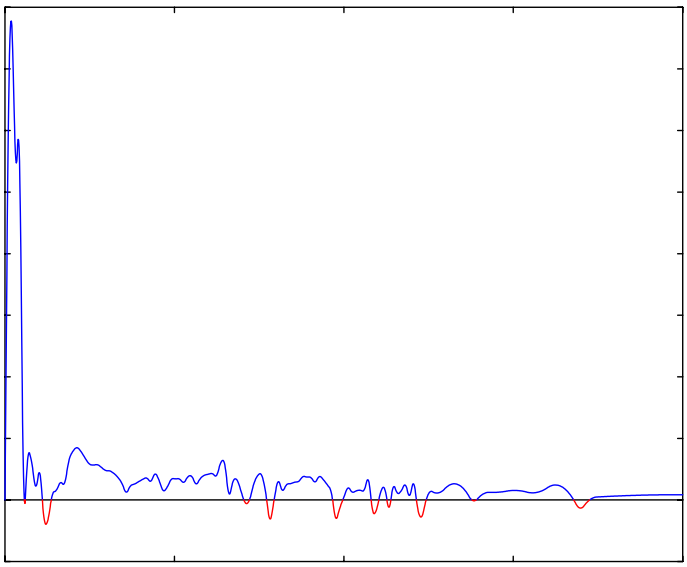


Following formula defines connection between density and velocity:

$$\frac{dm}{dS} = \frac{1}{2 \cdot \pi \cdot r \cdot \gamma} \cdot \left(v^2 + 2 \cdot r \cdot v \cdot \frac{dv}{dr} \right) \qquad (13)$$

Graph of density over radius of galaxy is derived from above graphic:

Fig. 7



This graph contains red areas of negative masses, which is impossible. There are two solutions for the situations:

1. Galaxy is young far away from its stable form.
2. There are string interaction between bodies in the galaxy and force decreases with degree different than 2.

We could suppose that solution two is valid one. If we suppose that gravitational force could be written in the following form:

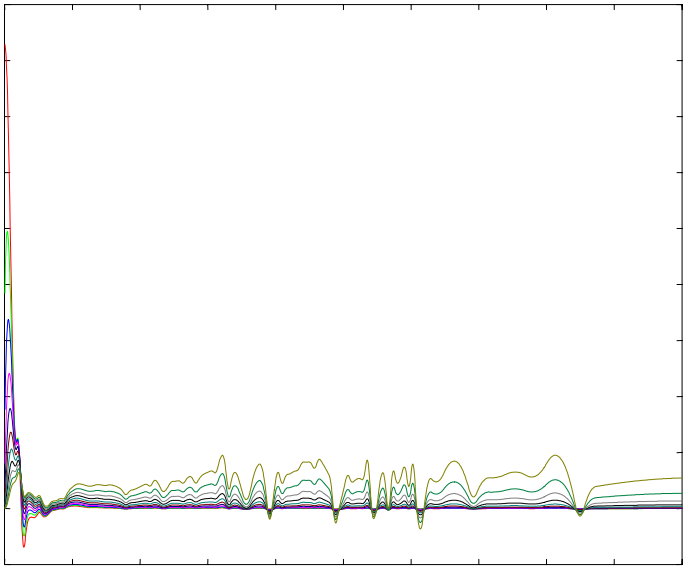
$$F_{1,2} = \gamma \cdot \frac{m_1 \cdot m_2}{r^k} \tag{14}$$

Where **k** is not necessarily equal to two. Then we have:

$$\frac{dm}{dS} = \frac{1}{2 \cdot \pi \cdot \gamma} \cdot \left((k-1) \cdot r^{k-3} \cdot v^2 + 2 \cdot v \cdot r^{k-2} \cdot \frac{dv}{dr} \right) \tag{15}$$

Following graphic shows curve of mass density for various values of parameter $\mathbf{k} \in [1,3]$:

Fig. 8



It is noticeable that for k = 1 there is no negative mass and it is a case of E^2 distribution of strings.
Recent theoretical research done by Thierrin [1] showed that particles in the atom's core have super-luminary velocity:

$$v = \sqrt{2} \cdot c \tag{16}$$

This presumption led to correct formula for neutron's mass:

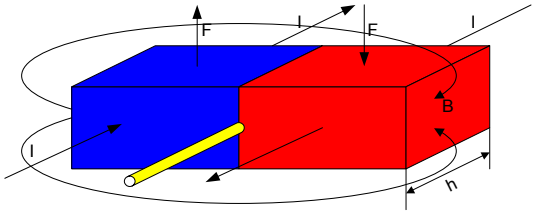
$$m_n = m_p + m_e \cdot \left(2 - \frac{\alpha^2}{2} \right) \tag{17}$$

This means that empty space, i.e. vacuum behaves to nuclear forces like the superconductive fluid behaves to magnetic field. Consequently nuclear interactions must be string-ones only.
At the moment string hypothesis is pure speculation. Above experiment will show more clearly whether it is real theory or just a fiction. Although it is a mystical theory with very difficult quantifications of forces acting between fields' sources, it magically fills all the black holes in present theories.

IMPOSSIBLE ENGINES GROUNDED ON N HYPOTHESIS

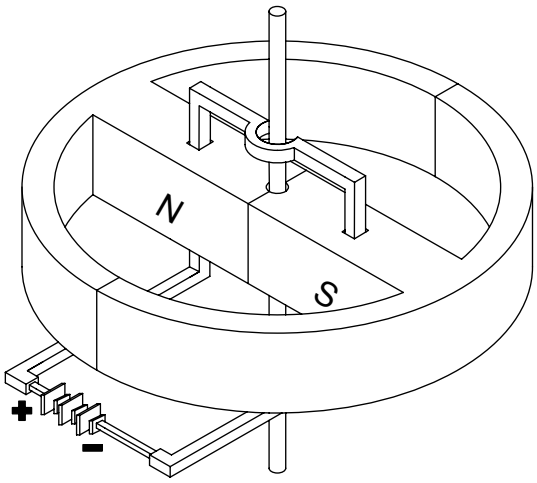
If official theory is correct (N hypothesis is valid and there is no interaction between electric field and a magnet), then we could make a device that produces a single-end-force based on the following picture:

Fig. 9



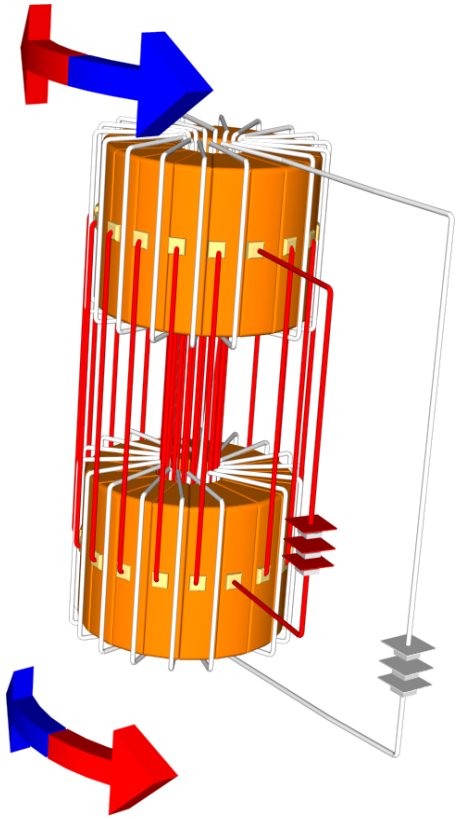
This device should start to rotate around yellow shaft when circuit is running trough the north and south poles in contra directions as it is shown on above picture. But it would not happen because such motor does not have stator, i.e. prop and consequently N hypothesis is not valid one.
We can further evolve upper construction to prevent exposing of outer circuit to magnetic field.
To avoid such interaction of outer contours and magnetic field the following device should be made:

Fig. 10



Static magnet with confined magnetic field should start with rotation when current start running trough contour that intersects the magnet regarding equations (1) and (2).
Rotational moment can be transformed to linear one in the following device:

Fig. 11



Device is consisted of a torus split to segments electrically isolated. Each segment is able to be magnetized and to conduct electric current. Gray coils magnetize both toruses. Red wires inject current into segments producing upward force or downward force regarding presently accepted theory. Toruses have mutually opposite magnetic polarization. The device does not have moving parts.
But, the shown device does not produce any force because this is impossible. It would make only electrostatic polarization due to Hall effect.
Let we analyze following formulas:

$$\vec{E} = \vec{v} \times \vec{B} \tag{18}$$

And

$$\vec{B} = \frac{1}{c^2} \cdot \vec{E} \times \vec{v} \tag{19}$$

Force obtained by above formula is:

$$\vec{F}_{1,2} = Q_1 \cdot \vec{v}_{1,2} \times \vec{B}_2 \tag{20}$$

We have to keep in mind that force is difference variable with two ends marked with 1 and 2. Velocity is also difference variable between two moving ends with same labels 1 and 2 respectively. If the $\vec{B}$ field is not on the other end marked with 2 and Q on the first and marked with 1, then there is a question of sense of force and velocity. Thus classic theory introduces force with one end only and this is directly against Newton's Law of Action and Reaction. However, this presumption also violates laws of Momentum and Energy conservations: motor without prop violates angular

momentum conservation because rotor accelerates without repealing the stator. Let we watch following equation of power:

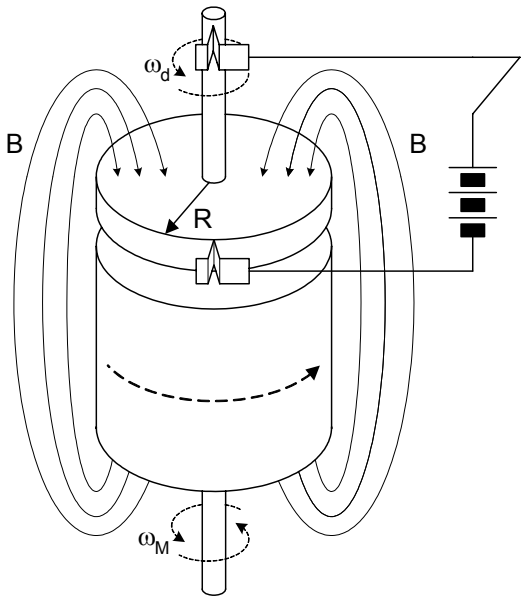
$$P = \vec{F}_{1,2} \cdot \vec{v}_{1,2} \qquad (21)$$

If the force is pushing a body with a particular velocity it acquires above power. We need two ends for both force and velocity to establish proper equation of power.
We could notice that energy is relative value because it depends on velocity between two bodies. Thus present theory predicts that Perpetuum-mobile is possible and also a star-drive engine that is able to produce thrust without repelling anything. But such devices are not made yet. It is not due to conspiracy of Big Petroleum Companies, it is due to their physical and natural impossibility of realization.
The Maxwell equations also have partial time derivative instead of total time derivates. Partial ones preserve time differentiation to touch coordinates, localizing its propagation to time variables only. Thus such equations led to Lorentz transformations and consequently to Einstein's relativity. Maxwell equations should have total time derivation and then they will have much simpler form.
Force without prop is impossible. Force always has to have two ends.
What a mess! How did these all started?

GENESIS OF THE MESS

All started with Faradays hompolar generator. It was the first electric machine ever built. It is shown on the following picture:

Fig. 12



Rotation of the magnet ω_M has no influence to rotation of the above disk with current. Faraday wrongly concluded that field of the magnet is static although it is obvious that above disk has to repeal on something. Volta was right!
Such Faraday's presumption is clearly disproved by http://www.andrijar.com/homopolar/index.html.

He did it because nature of $\vec{B}$ field was hidden until http://www.andrijar.com/magdop/index.html, and consequently second end of velocity in equation (18) was unclear. In fact, this is velocity between a charge and magnet. Situation is simple in case two punctual charges, but in case of interaction between a charge and set of charges in motion, we should find the center of field first and a sum of all charges. It is interesting that center of mass and center of $\vec{G}$ field is not necessary identical. Center of total field generated by a set of particles with r^{-2} fields is given by the following equation:

$$\vec{r}_{\vec{G}} = \sqrt{m} \cdot \frac{\int_0^V \frac{\vec{r}}{|\vec{r}|^3} \cdot \rho_m(\vec{r}) \cdot dV}{\left| \int_0^V \frac{\vec{r}}{|\vec{r}|^3} \cdot \rho_m(\vec{r}) \cdot dV \right|^{\frac{3}{2}}} \tag{22}$$

And

$$\vec{r}_{\vec{E}} = \sqrt{Q} \cdot \frac{\int_0^V \frac{\vec{r}}{|\vec{r}|^3} \cdot \rho_Q(\vec{r}) \cdot dV}{\left| \int_0^V \frac{\vec{r}}{|\vec{r}|^3} \cdot \rho_Q(\vec{r}) \cdot dV \right|^{\frac{3}{2}}} \tag{23}$$

But center of mass and center of charge is:

$$\vec{r}_m = \frac{1}{m} \cdot \int_0^V \vec{r} \cdot \rho_m(\vec{r}) \cdot dV \tag{24}$$

And

$$\vec{r}_Q = \frac{1}{Q} \cdot \int_0^V \vec{r} \cdot \rho_Q(\vec{r}) \cdot dV \tag{25}$$

Centers of masses and charges are absolute values regardless of the position of observer and this is not case with the centers of electric and gravitational fields.
So, total force if given by the following equation:

$$\vec{F}_{1,\vec{E}} = \frac{\hat{r}_{\vec{E}}}{4 \cdot \pi \cdot \varepsilon} \cdot Q_1 \cdot \frac{\int_0^V \rho_Q(\vec{r}) \cdot dV}{\vec{r}_{\vec{E}}^{\,2}} \tag{26}$$

And

$$\vec{F}_{1,\vec{G}} = \gamma \cdot \hat{r}_{\vec{G}} \cdot m_1 \cdot \frac{\int_0^V \rho_m(\vec{r}) \cdot dV}{\vec{r}_{\vec{G}}^{\,2}} \tag{27}$$

But:

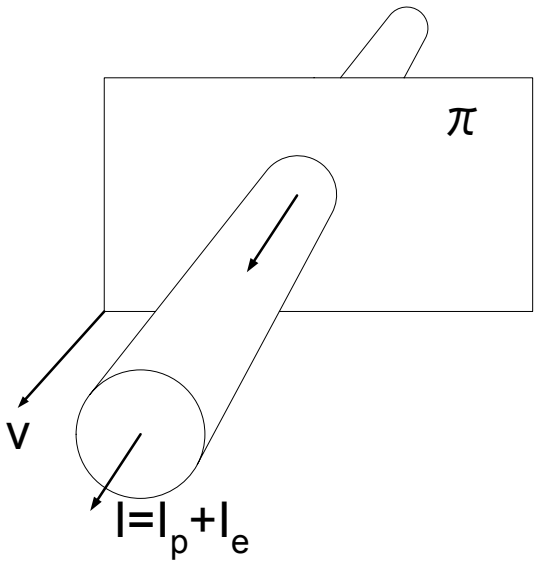
$$\vec{F}_{1,m} = \ddot{\vec{r}}_m \cdot \int_0^V \rho_m(\vec{r}) \cdot dV \qquad (28)$$

Gravitational force requires center of field and inertial force requires center of mass. It is one more proof that inertial and gravitational masses are not exactly the same. Regarding (20) and (19) we have:

$$\vec{F}_{1,\vec{B}} = \frac{Q_1}{c^2} \cdot \dot{\vec{r}}_{\vec{E}} \times \left(\vec{E} \times \dot{\vec{r}}_{\vec{E}}\right) \qquad (29)$$

In case of homopolar generator and above equation, center of disk and of $\vec{B}$ field are identical, i.e. they have same coordinates and there is no mutual velocity between them. Thus direct interaction between disk and a rotating magnet is impossible because forces are in equilibrium. But, interaction is established between rotating disk and outer part of circuit that is used as prop as it is shown in mentioned references and by Jorge Valverde formula.
Further mistake is done observing electrically neutral conductors. Let we consider following picture:

Fig. 13



Above picture shows a conductor with current **I** and a plane π moving with velocity **v** across the conductor. If there is an observer on plane π then the current noticed on plane π is not function of the velocity of the plane:

$$I = I_e + I_p = \frac{dQ_e}{dt} + \frac{dQ_p}{dt} = \frac{dQ_e}{d\ell} \cdot (v_e + v_\pi) + \frac{dQ_p}{d\ell} \cdot v_\pi \qquad (30)$$

Also:

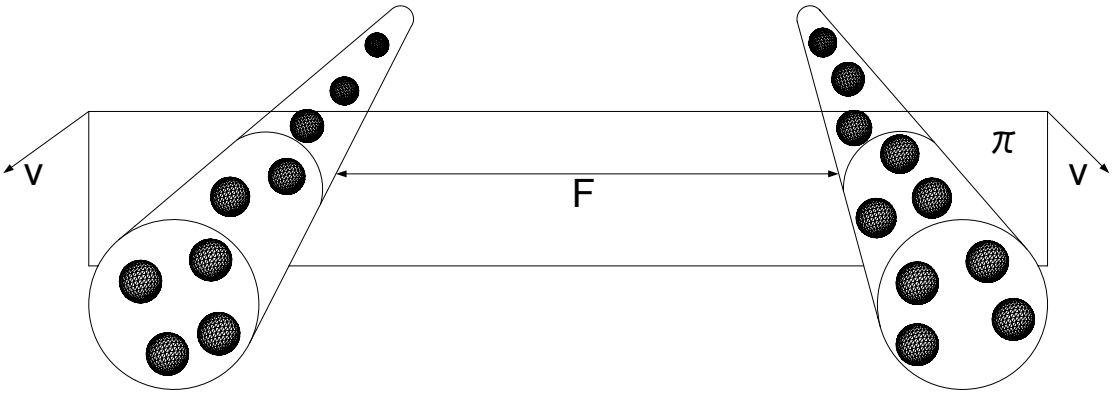
$$Q_e = -Q_p \qquad (31)$$

Anent:

$$I = I_e + I_p = \frac{dQ_e}{d\ell}\cdot(v_e + v_\pi) - \frac{dQ_e}{d\ell}\cdot v_\pi = \frac{dQ_e}{d\ell}\cdot v_e \qquad (32)$$

As it is shown function of current does not depend on observer velocity $\mathbf{v}_\pi$. It depends on speed of electrons $\mathbf{v}_e$ only.
Current is the most fundamental variable of magnetic interaction between wires and it does not depend on observer's velocity. Consequently, the trivial conclusion is that magnetic field is not moveable. But, it is not true. On the same way we could conclude that leafs produce wind, but certainly it is not true. Due to the fact that electric current is invariant variable
Let we consider two empty infinite parallel pipes filled with electric charges moving with same constant velocity with plane π that intersects these two pipes. Current running through plane π depends on planes velocity and that in contrary to case with neutral conductors

Fig. 14



This is not a case of electrically neutral conductors and classic formula for force between two conductors with current that is:

$$F_{1,2} = \mu\cdot\frac{I_1\cdot I_2}{2\cdot\pi\cdot r} \qquad (33)$$

Above formula is wrong and if we keep it, we would obtain following relation for relative charge (see http://www.andrijar.com/sr/sr.htm):

$$Q = \frac{Q_0}{\sqrt{1-\frac{v^2}{c^2}}} \qquad (34)$$

It is necessary to preserve independence pipes' force of plane velocity.

$$F'_{Q_0} = F'_Q + F'_M \qquad (35)$$

In case of two pipes with charges the following formula is valid:

$$F'_{1,2} = \frac{\mu\cdot Q'_1\cdot Q'_2\cdot(v_1 - v_2)^2}{2\cdot\pi\cdot r} \qquad (36)$$

Total force between pipes is:

$$F'_{1,2} = F'_Q + F'_M = \frac{Q'_1 \cdot Q'_2}{2 \cdot \pi \cdot \varepsilon \cdot r} - \frac{\mu \cdot Q'_1 \cdot Q'_2 \cdot (v_1 - v_2)^2}{2 \cdot \pi \cdot r} = \frac{Q'_1 \cdot Q'_2}{2 \cdot \pi \cdot \varepsilon \cdot r} \cdot \left(1 - \frac{(v_1 - v_2)^2}{c^2}\right) \quad (37)$$

Whereas:

$$Q' = \frac{dQ}{d\ell} \quad (38)$$

And

$$F' = \frac{dF}{d\ell} \quad (39)$$

In the case non-neutral conductors concept of magnetic field is not possible because than it is not steady variable. It depends on mutual velocity between participants in interaction. Trouton and Noble showed that there is no magnetic interaction between two electric charges moving with same constant velocity.
Now, it is obvious that magnetic field is consisted of two opposite electric fields with slightly different velocities which difference can be notified by moving observer when Doppler effect amplifies velocities' difference. For observer in rest that difference is equal to zero.
This could not be concluded due to premise that field is non-movable phenomenon "proved" by Faraday. Consequently, Maxwell equations should contain total time derivatives.

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