

## (WO2012053921) ELECTROMAGNETIC PROPULSION SYSTEM AND APPLICATIONS

Although not mentioned in the literature there exists a phenomenon which I choose to call the inverse Feynman paradox. In here instead of a coil at the center we have a magnet 4 with no coil around it, and we also have the conductive elements or electrodes (metallic spheres in this case) 2 in the periphery of a dielectric disk 3 (figure 1.i). From an upward perspective we can clearly see the magnet 4 with the north pole N pointing upwards and the surrounding magnetic vector potential  $\mathbf{A}$ , that involves elements 2. If now we introduce some charge into elements 2, the whole setup will also rotate. Using Equation (2) the force will now be:

$$\frac{d}{dt} (m\mathbf{v}) = - \frac{d}{dt} (q\mathbf{A}) = -\mathbf{A} \frac{dq}{dt} - q \frac{d\mathbf{A}}{dt} = -\mathbf{A} \frac{dq}{dt}. \quad (4)$$

Since the vector potential is now constant then the force will only be  $-A dq/dt$ . This means that when a positive charge increases, the force on the charge will have the opposite direction of the external vector potential. When we introduce and increase the positive charge on all spheres a force is produced that makes the whole setup rotate (figure 1.k). If we increase a positive charge on the left side and increase a negative charge on the right side, then a force will be generated in the same direction capable of producing linear propulsion as before (figure 1.l). Element 1 in figure 1.g) can also be a magnet 4 and the charge on the outside (of element 2) has to have asymmetric rise and fall times in order to produce an asymmetrical resultant force. The force can be vectored by using the segments like in figure 1.h) or by exciting with high voltage isolated portions of the surrounding electrodes 2.

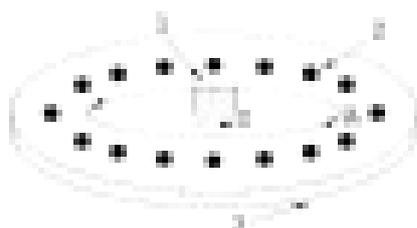


Figure 1.01

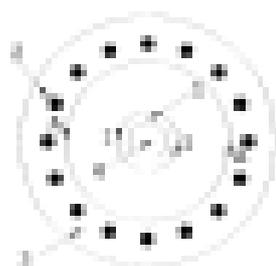


Figure 1.02

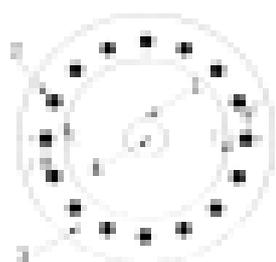


Figure 1.03

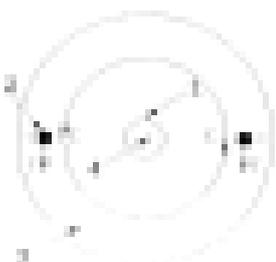


Figure 1.04