Rotating Disc in the Earth's Magnetic Vector Potential

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1. Introduction

My paper [1] brought attention to the huge magnetic vector potential of the Earth and dealt with the so-called electro-kinetic potential obtained from movement through that vector field. This present paper considers the effect of that field using rotating discs to obtain the movement.

2. Electro-kinetic Potential on a Rotating Disc

Consider a point P in a disc that is rotating about a N-S axis, figure 1.

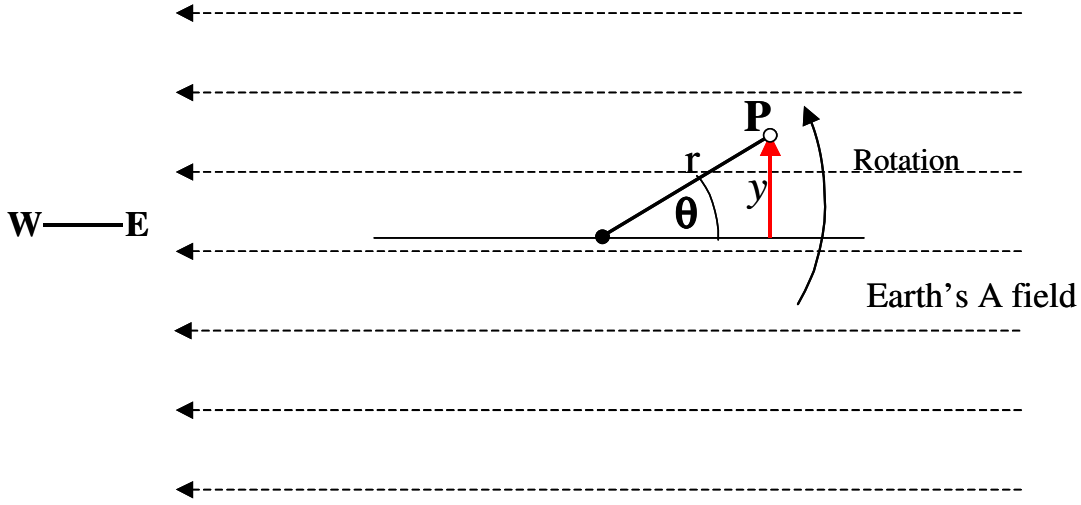

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Figure 1. Rotating point

The electro-kinetic **v·A** potential at point P is vAsin(θ), and since velocity v=ωr and sin(θ)=*y*/r we get the satisfactory result that the potential is directly proportional to the vertical distance *y*.

$$\mathbf{v} \cdot \mathbf{A} = \omega A y \qquad (1)$$

Plotting the equipotentials in the disc yields a uniform vertical E field across the disc.

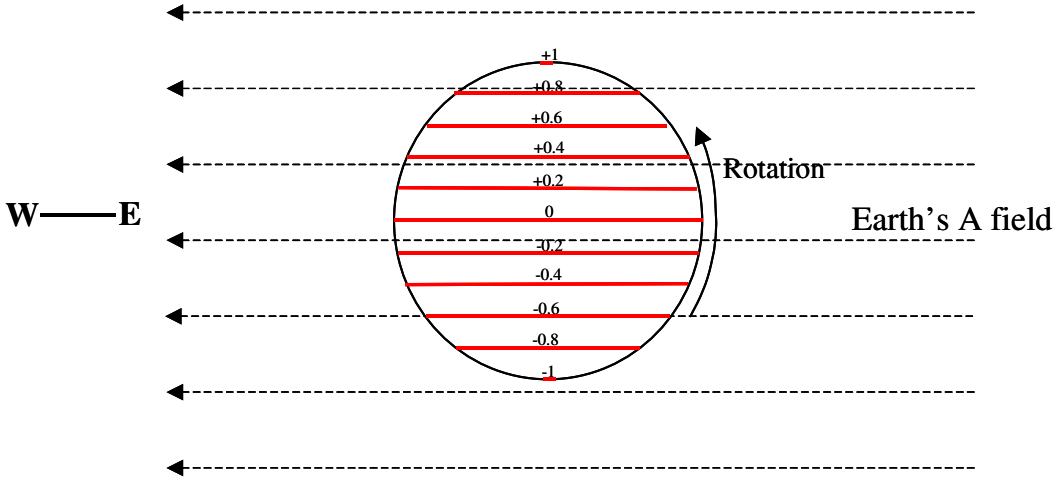

Figure 2. Lines of equi-(v·A) potential in spinning disc relative to v·A max

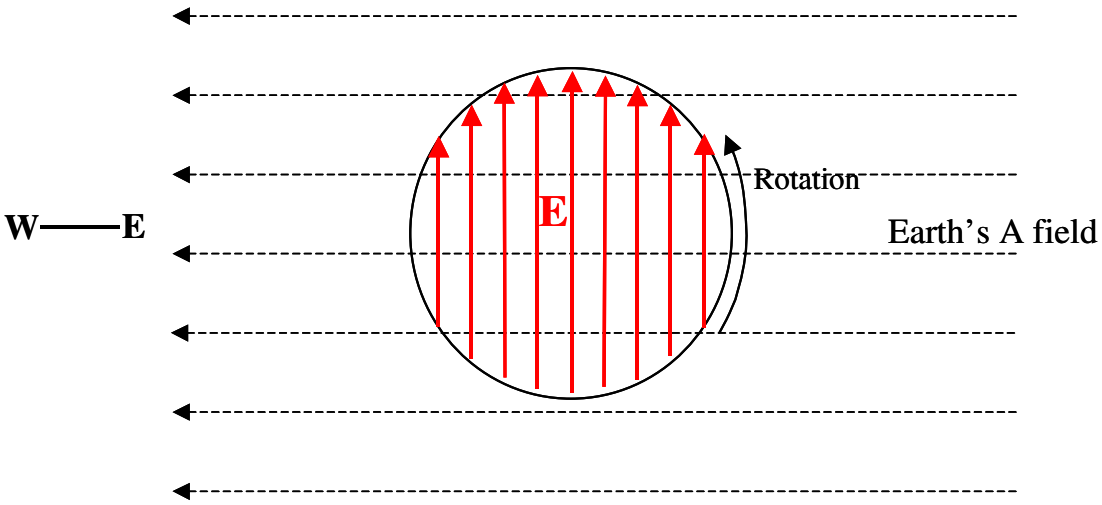

Figure 3. grad(v·A) E field in spinning disc

If the disc is electrically conductive the E field could drive conduction electrons so that there are excess electrons at the bottom and a deficiency at the top, the disc becomes electrically charged. Perhaps the simplest way to test this is by having brushes at the top and bottom then look for a DC output from them, figure 4.

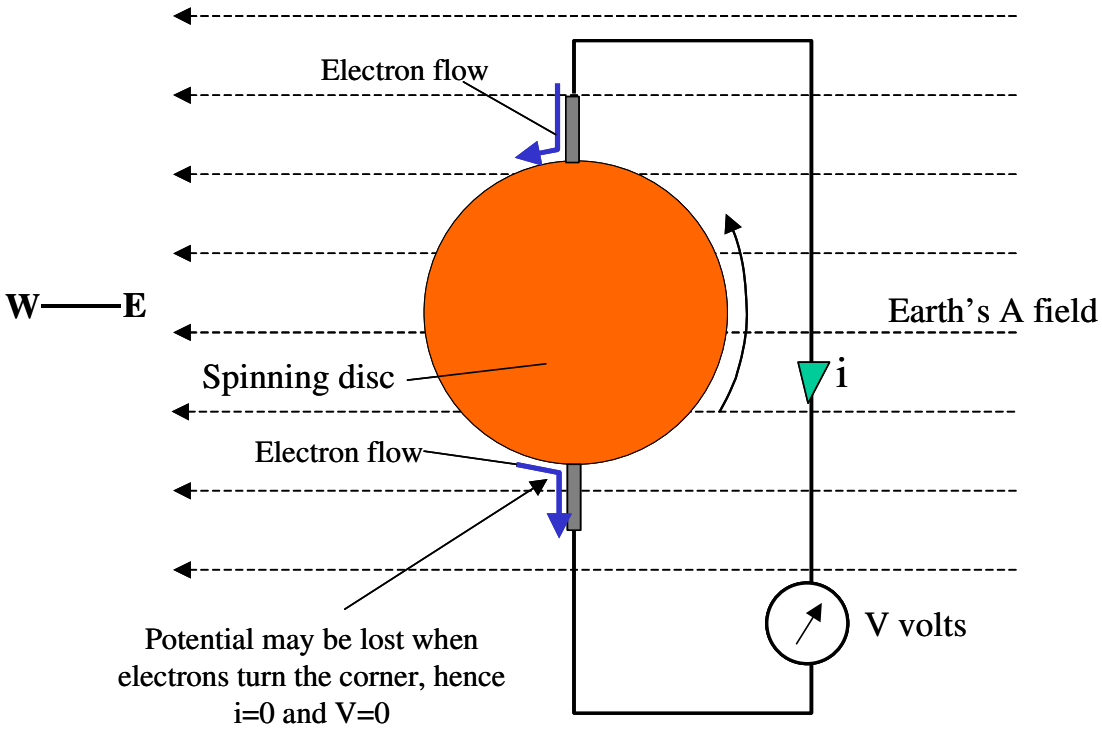

Figure 4. Spinning disc with brushes

However electrons leaving the disc will immediately lose their EK potential so this scheme might not work. An alternative is to take off energy via capacitive displacement current, and this could be achieved by placing sharp pointed conical electrodes on the disc so that the charge accumulates at those sharp points. Then movement past similar conical fixed electrodes will induce displacement current impulses across the gap. It is not clear whether it is best to have a series of conical electrodes around a conductive disc, figure 5, or on an insulated disc but cross-connected so that charge can flow from one to the other, figure 6.

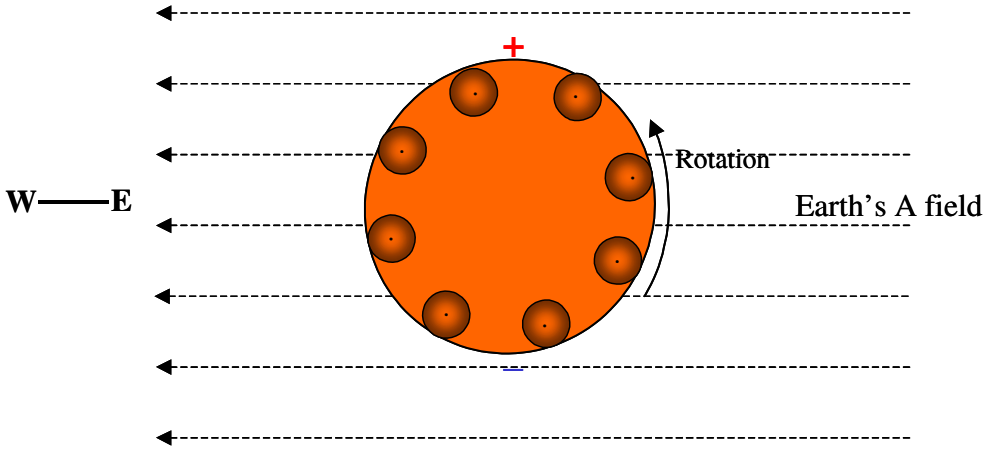

Figure 5. Conical electrodes on conductive disc

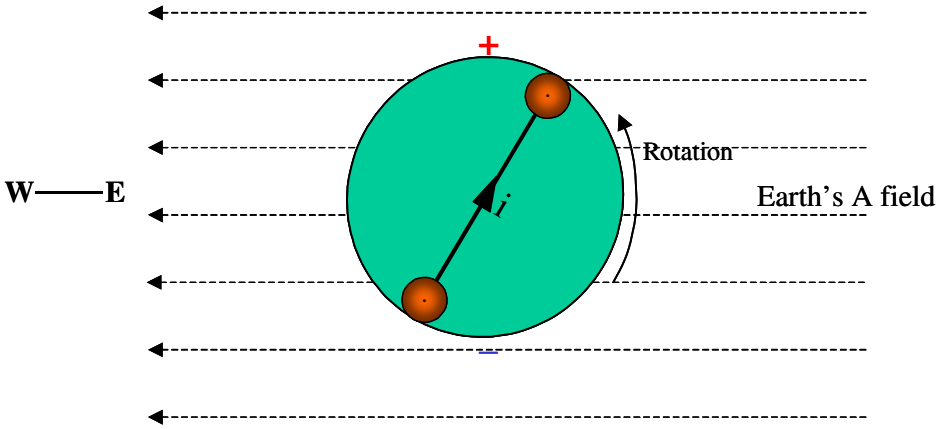

Figure 6. Electrodes on insulated disc

Figure 7 shows moving electrodes as they pass by another fixed one, or possibly another electrode on a contra-rotating disc thus doubling charge across the gap.

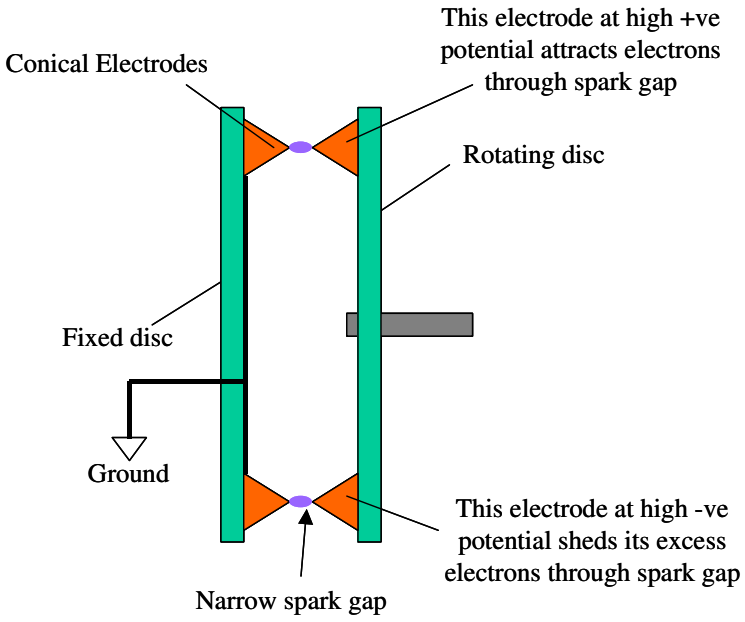

Figure 7. Electrodes passing each other

With these conical electrodes we can possibly have a spark as they pass as shown in figure 7. This has the interesting feature that there is attraction of opposite charges as they near each other but that attraction disappears after the spark discharge, hence there is a net boost torque. It is a form of electrostatic motor that unlike one that need driving with HV DC obtains its HV automatically. That in itself could be over-unity. The other possibility is simply a displacement current impulse centred on the gap alignment. Either way, the current across the gap could be detected or used by allowing it to pass through the centre of a toroidal coil wound on a ring core, as shown in figure 8.

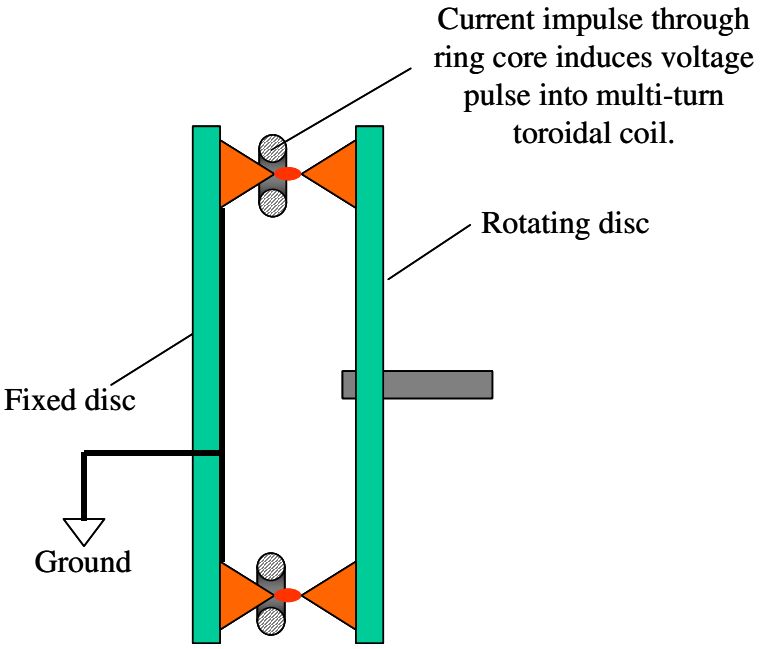

Figure 8. Addition of toroidal coils on ring cores

It may be noted that the device offered by Innova Tehno1943 [2] has somewhat conical electrodes and toroidal cores.

3. Conclusions

Discs rotating in the Earth's magnetic vector potential could become electrically charged via the gradient of the induced electro-kinetic potential. With the vector potential being as high as 200 Weber/m at the equator the EK potential can easily reach 1 KV at realistic disc diameters and rotation speeds. This offers possibilities for overunity machines. A number of possibilities have been examined, it remains for experiments to determine whether these come to fruition.

References.

[1] Electro-kinetic Potential in the Earth's A Field
http://www.overunityresearch.com/index.php?action=dlattach;topic=3395.0;attach=23796

[2] http://innovatehno.eu/