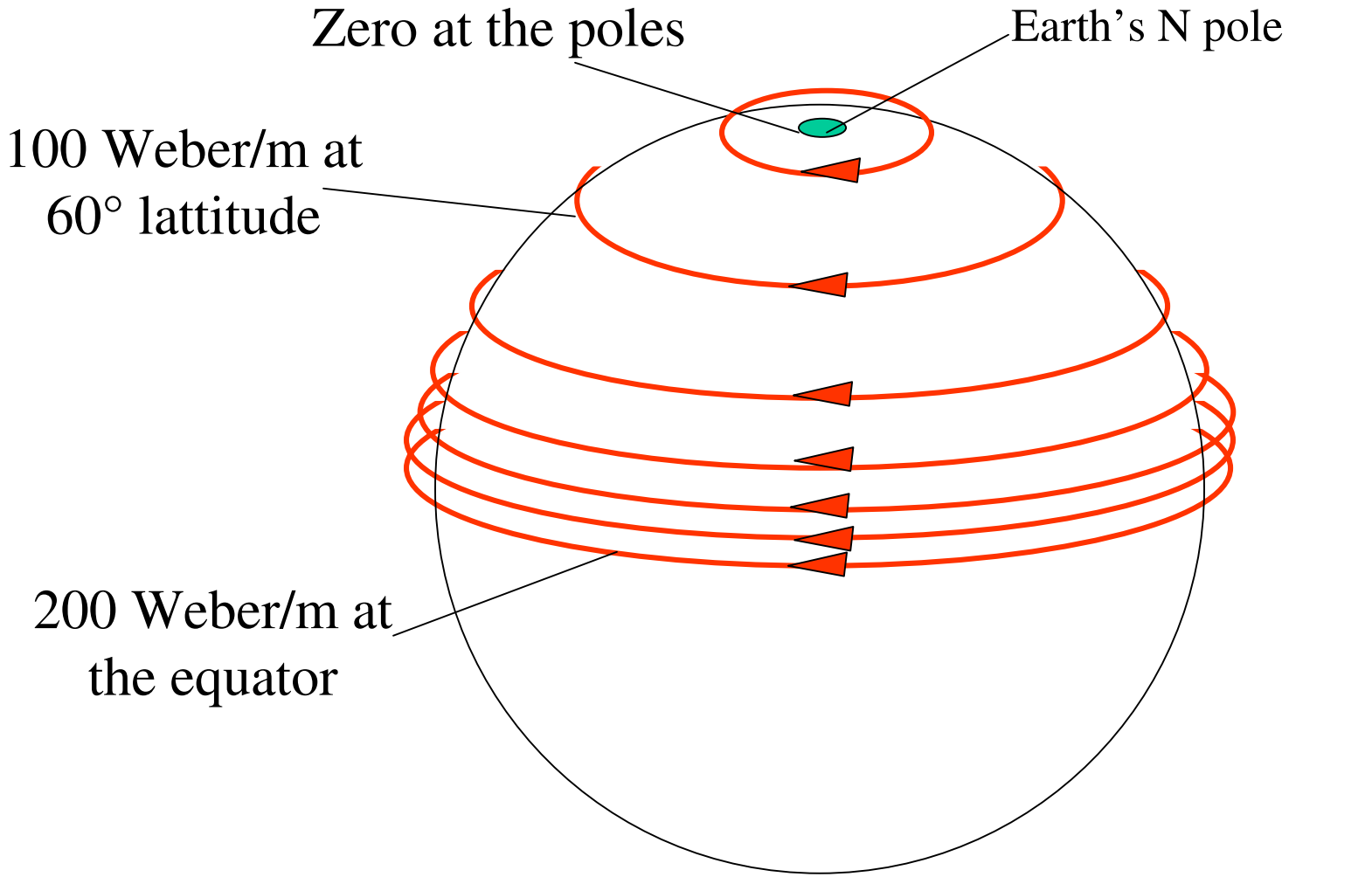
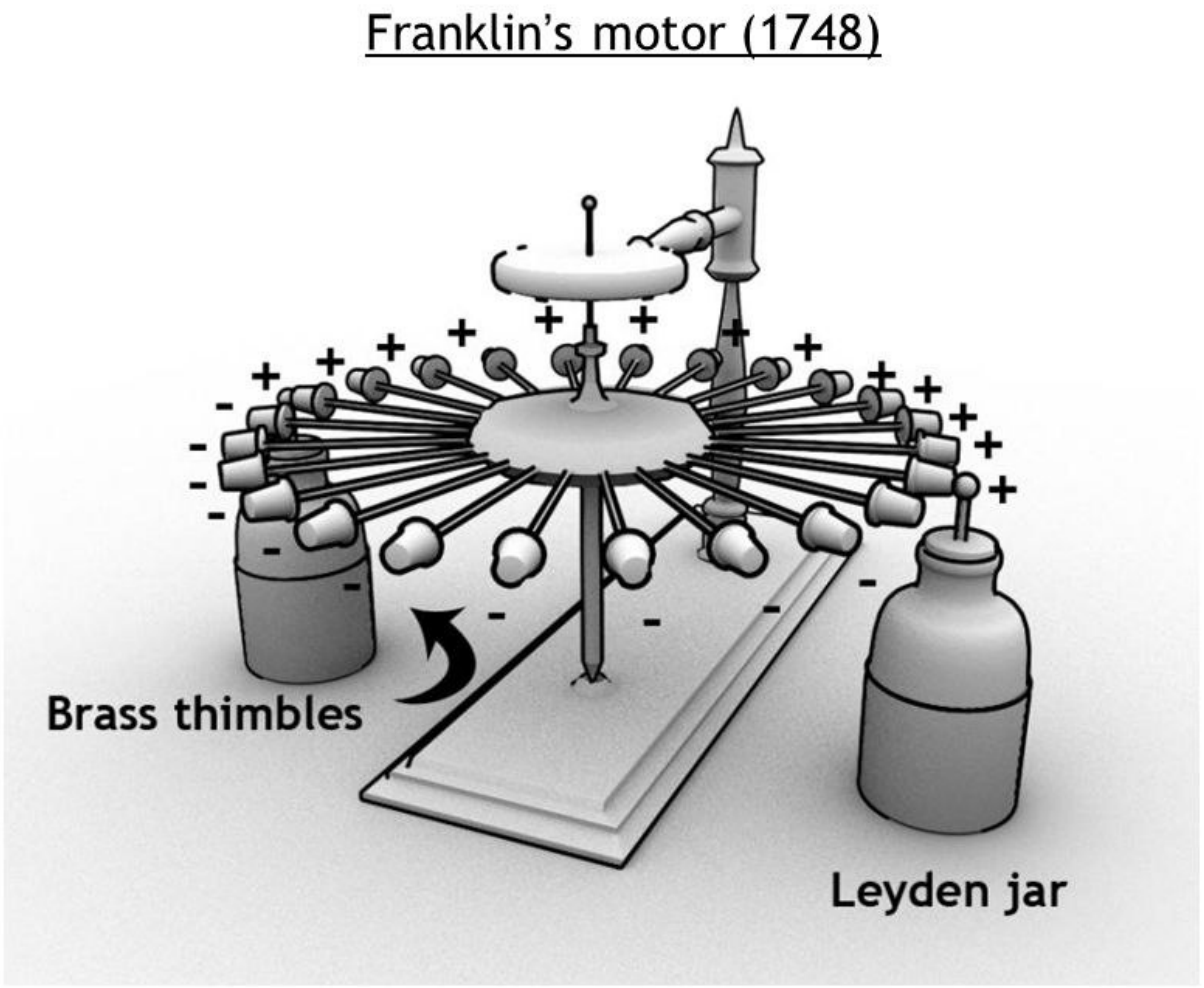
EXTRACTING ENERGY FROM THE EARTH'S MAGNETISM

Earth's magnetic vector potential

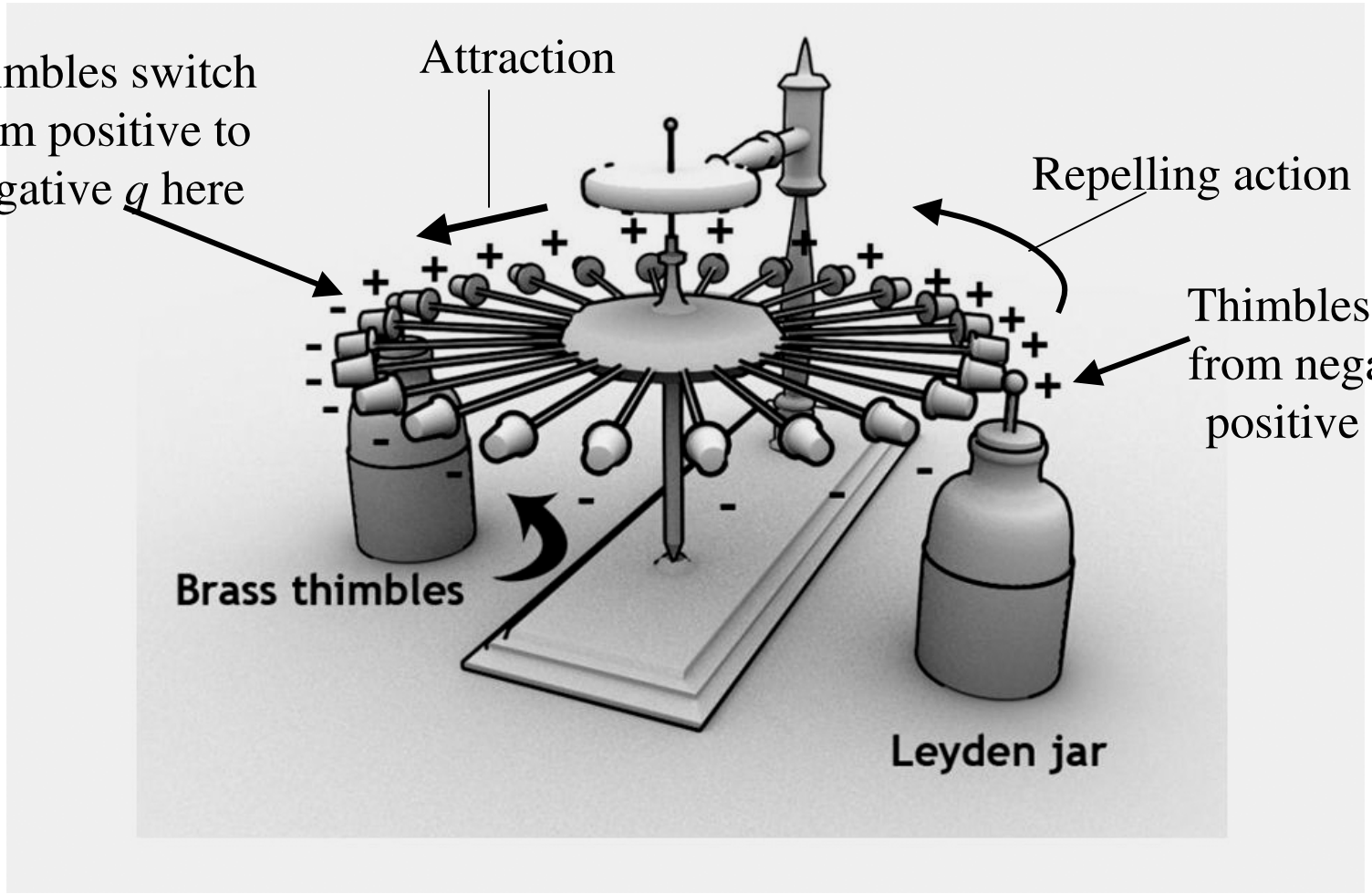
(only northern hemisphere shown, southern hemisphere similar)



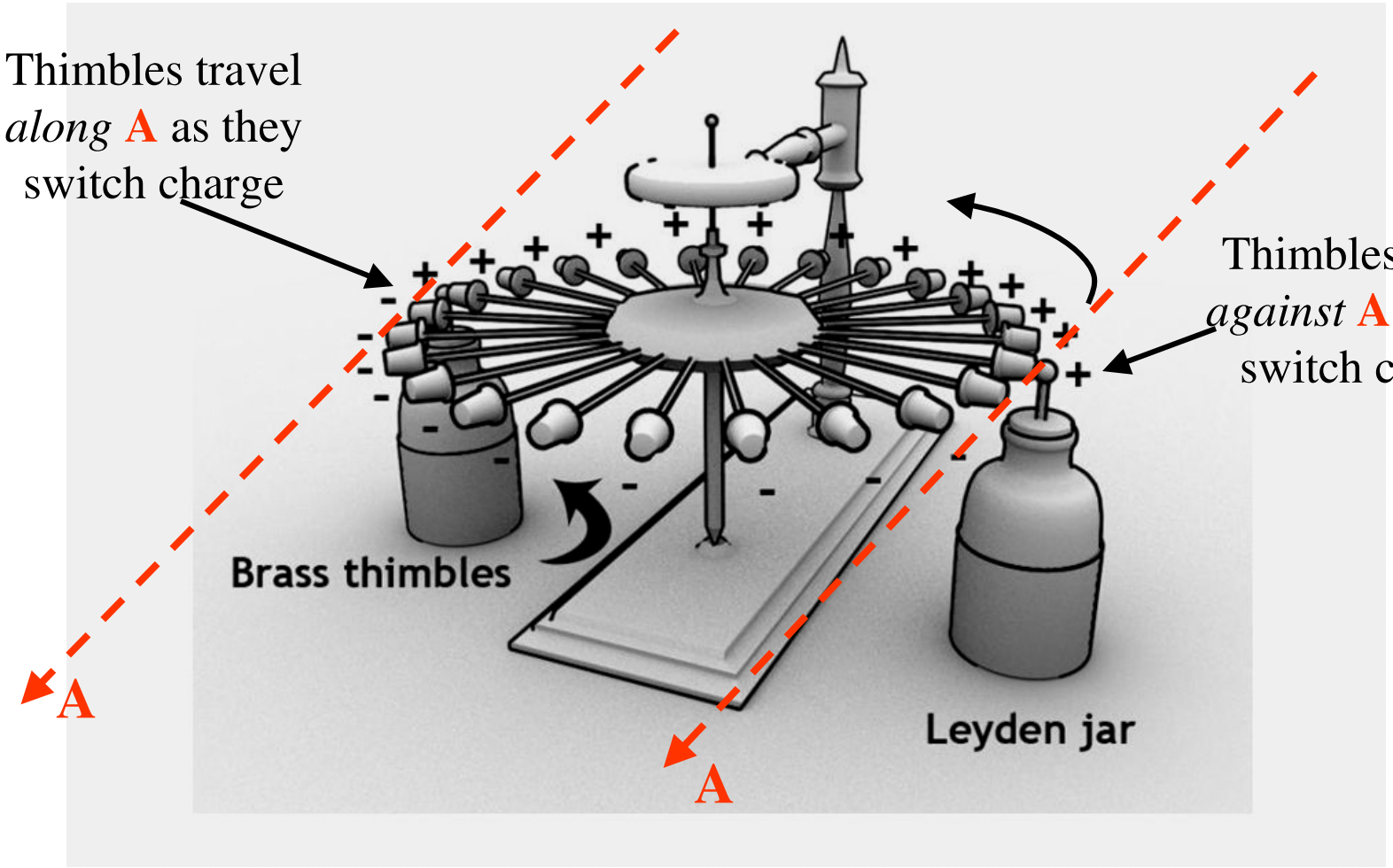
Franklin demonstrated an electrostatic motor in 1748



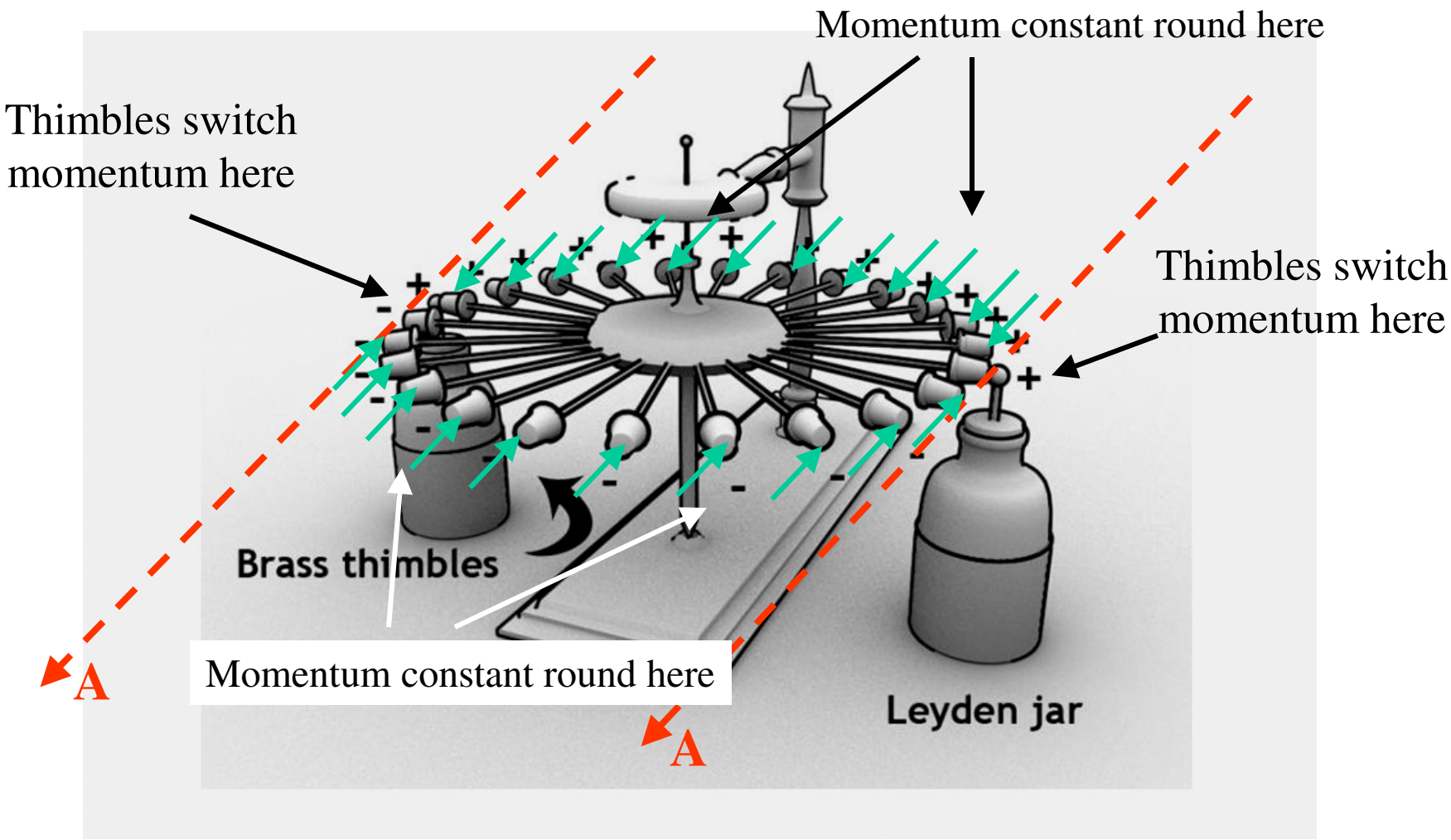
Thimbles carry charge positive or negative charge q and the motor uses the repulsion and attraction to the Leydon jars.



Motor immersed in a static magnetic vector potential **A** field.



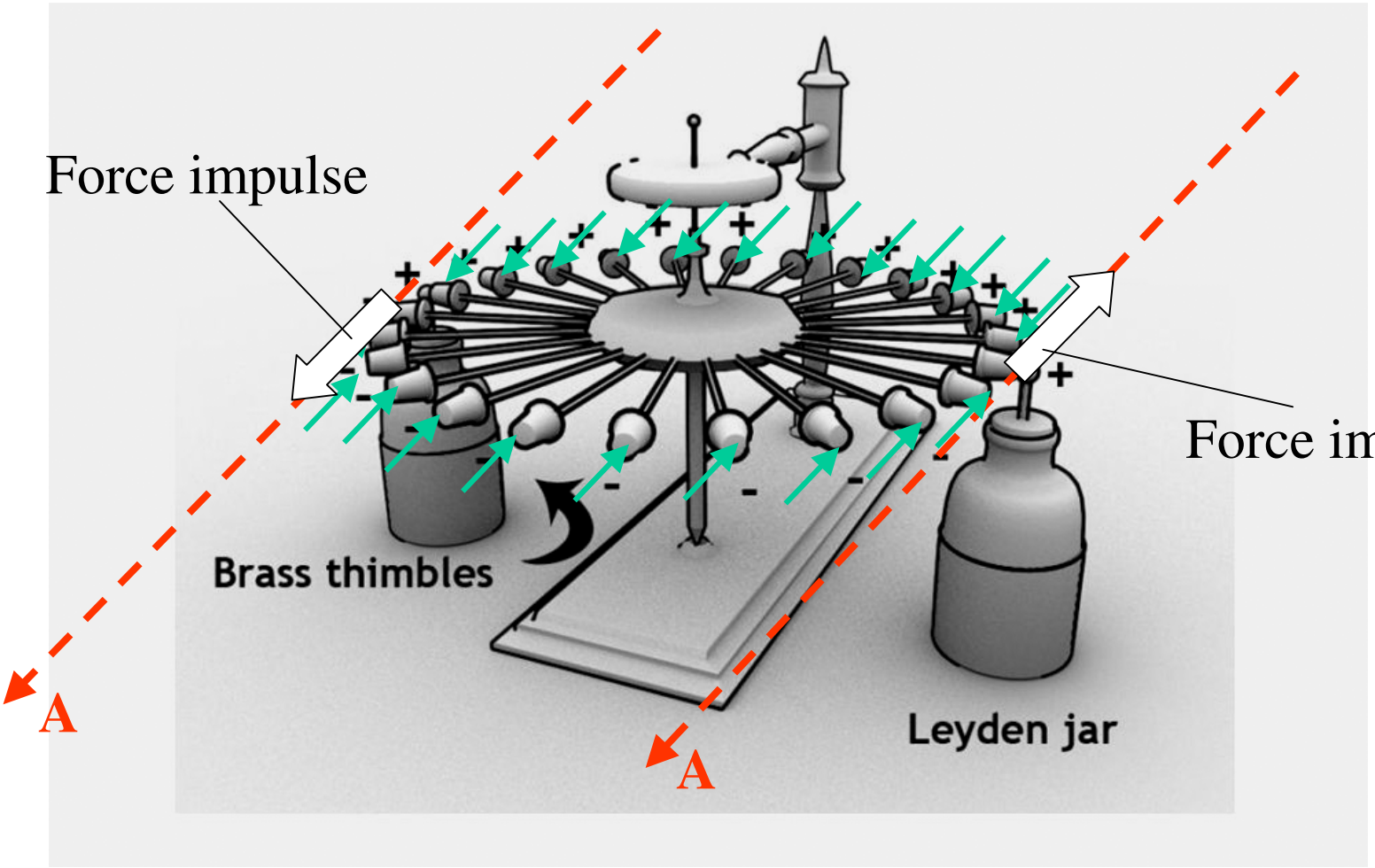
Thimbles carry electromagnetic "hidden" (non velocity dependent) momentum $q\mathbf{A}$ depicted thus: →



Change of momentum produces force $\mathbf{F} = -\mathbf{A}\mathrm{d}q/\mathrm{d}t$

Change of charge δq at the switching point is $2q$

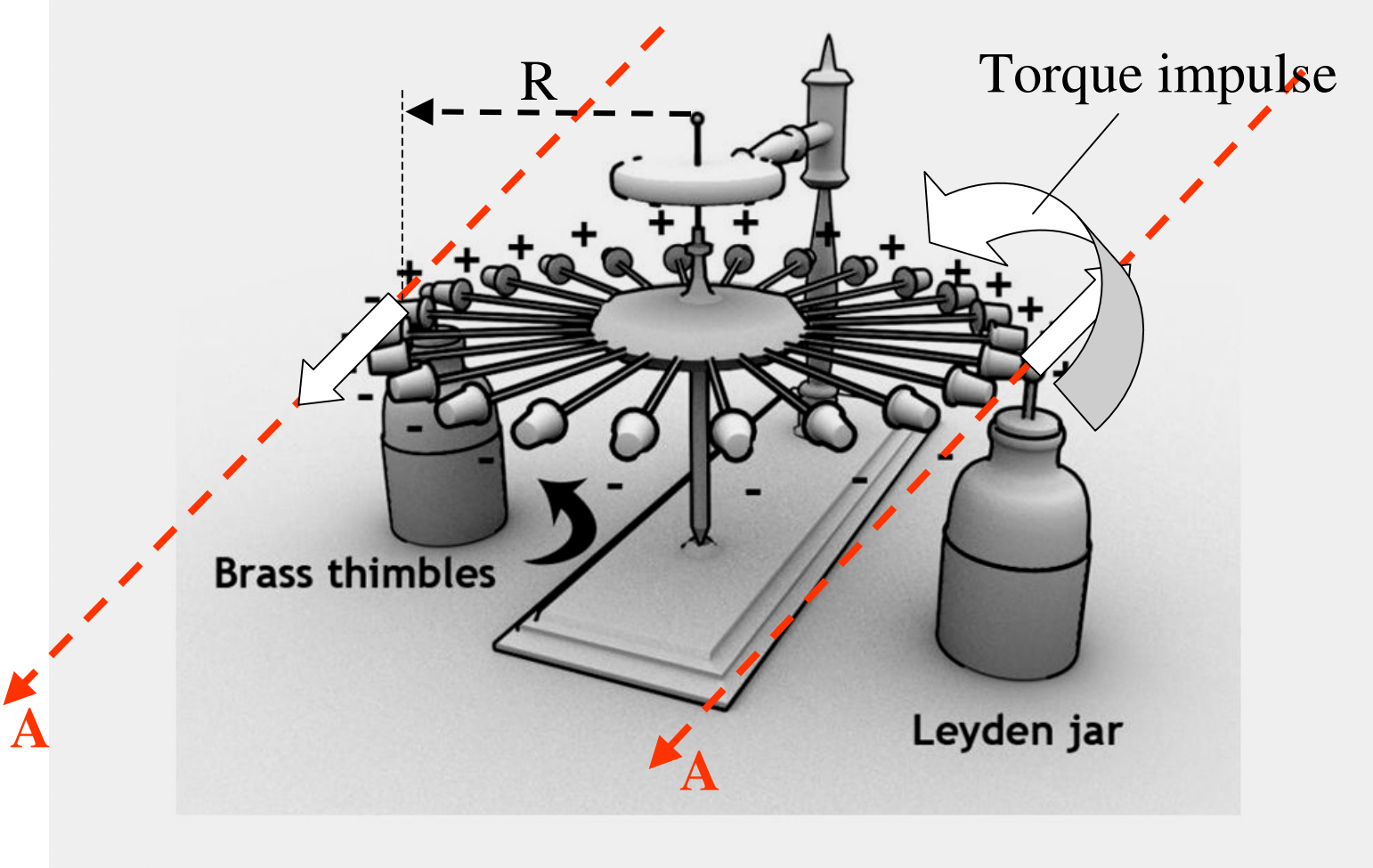
Force×time impulse magnitude $F.\delta t = 2Aq$

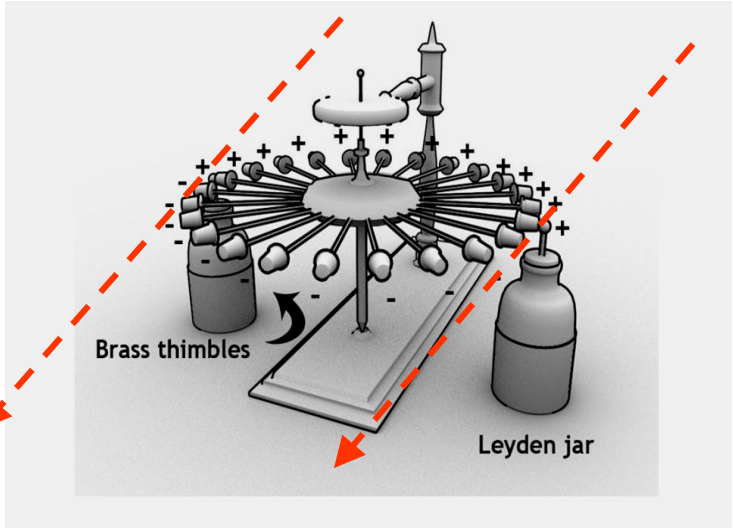


Force impulse $F.\delta t = 2Aq$ at both sides

Torque impulse $T.\delta t = 4AqR$

Here torque aids the rotation





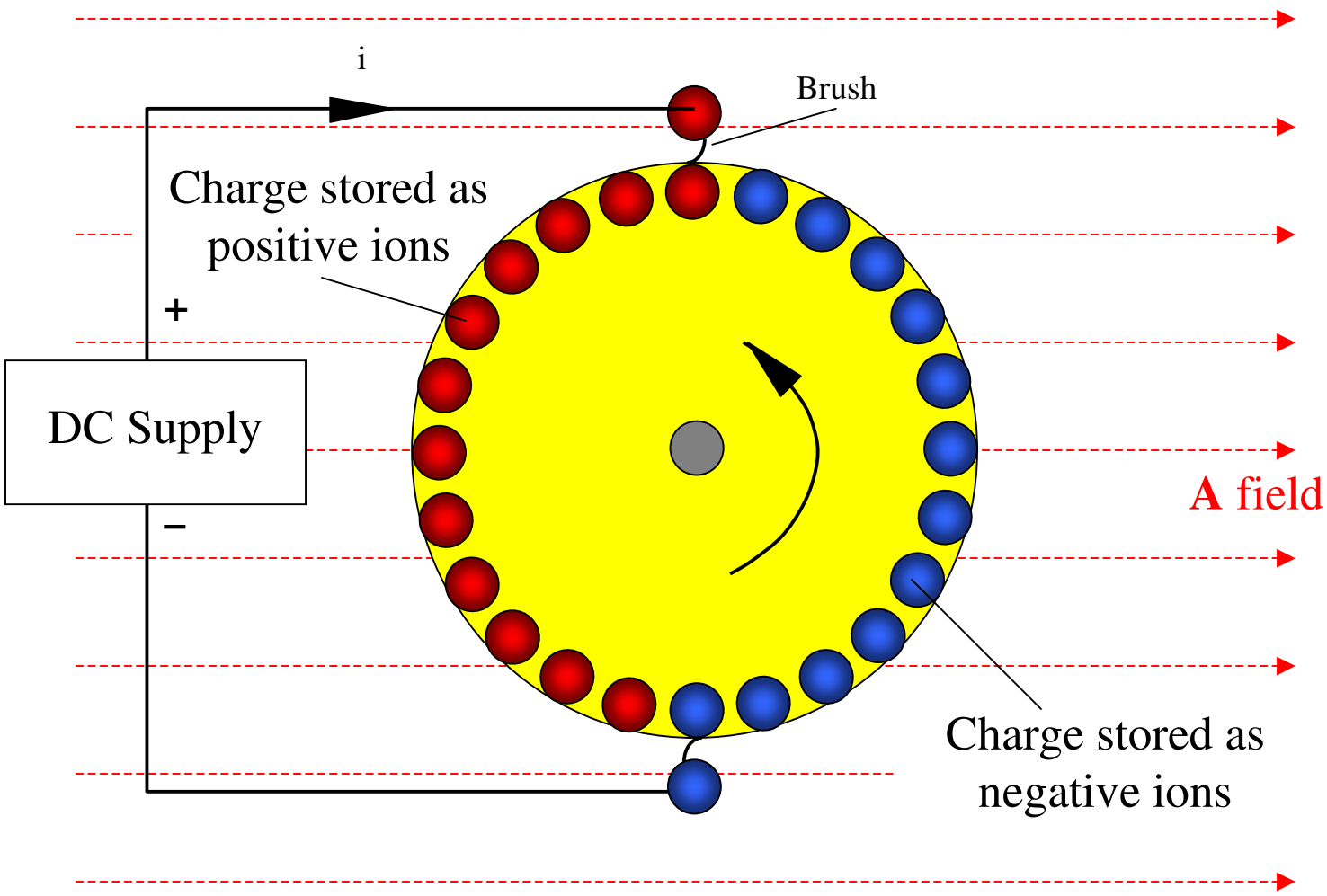
The motor gets drive from electrostatic attraction/repulsion *and* from the interaction with the **A** field.

With typical q of electrostatic charged bodies the **A** field effect is insignificant.

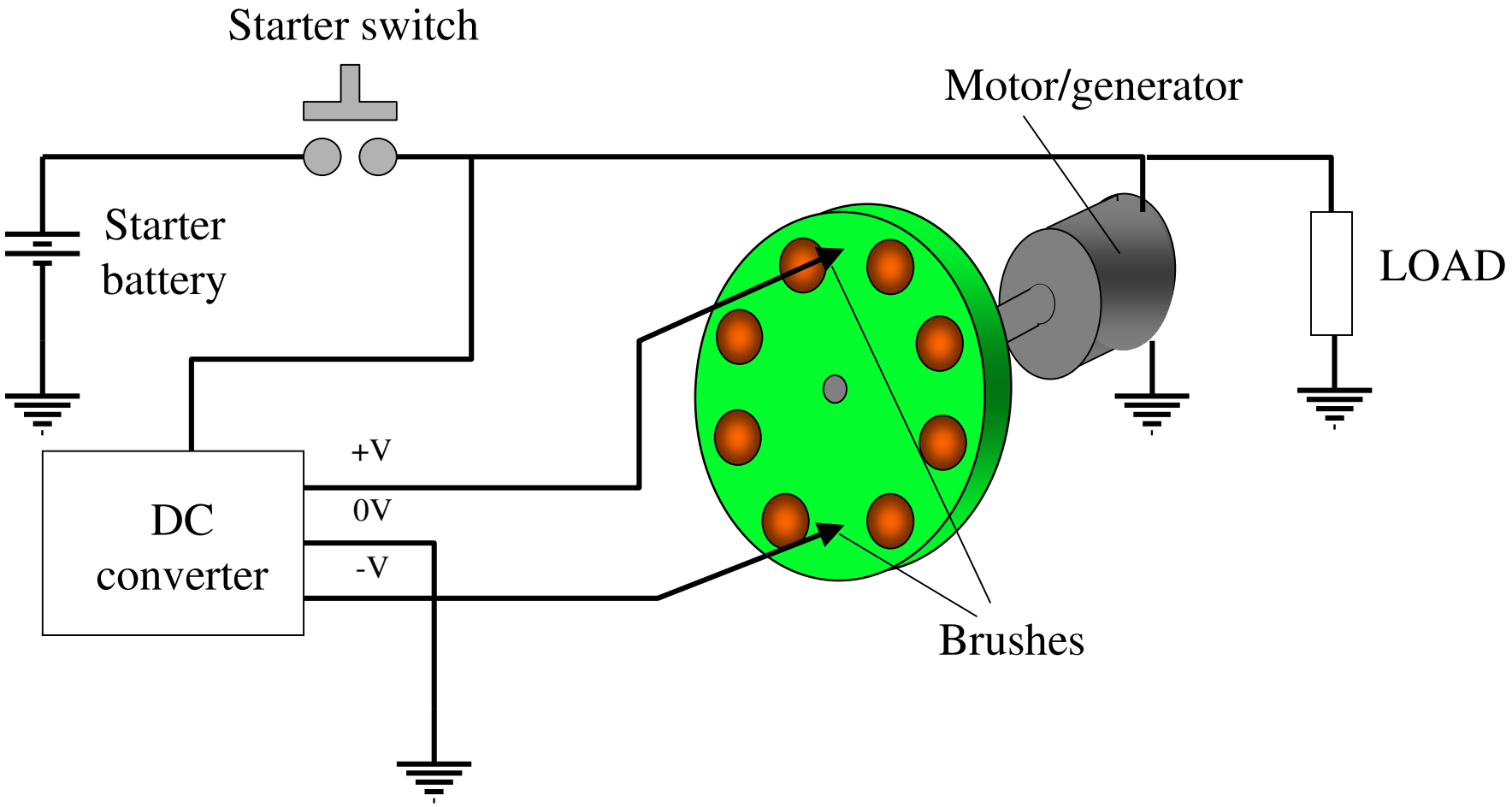
Other forms of charge storage such as electrochemical allows higher q at lower voltage.

A motor driven mainly from the A field interaction is then feasible.

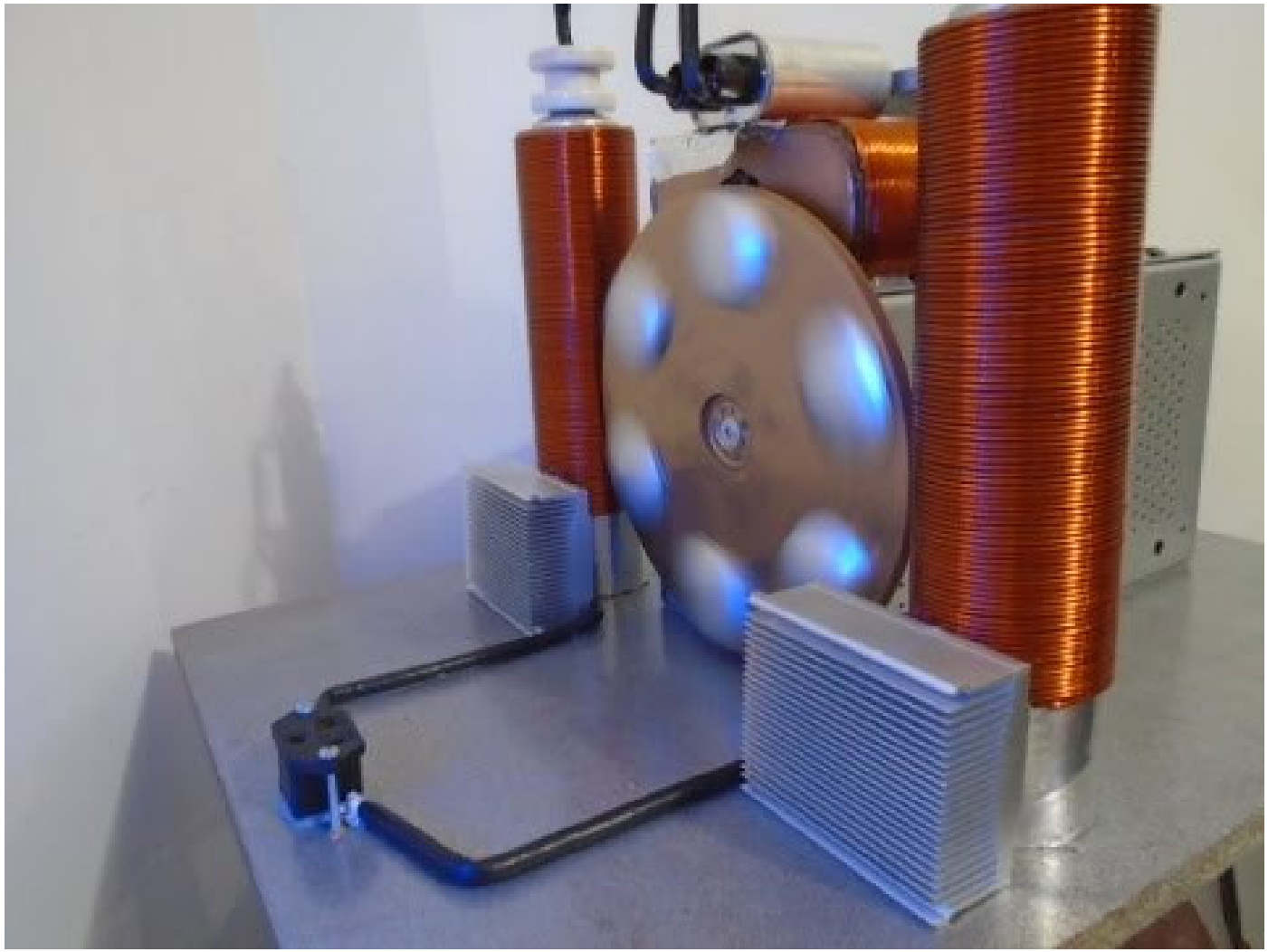
Use of cell technology stores charge in the electrolyte as ions.
This motor runs from the A field interactions.



System uses a starter battery. Once started the system free-runs, the starter motor then being used as a generator to supply the load



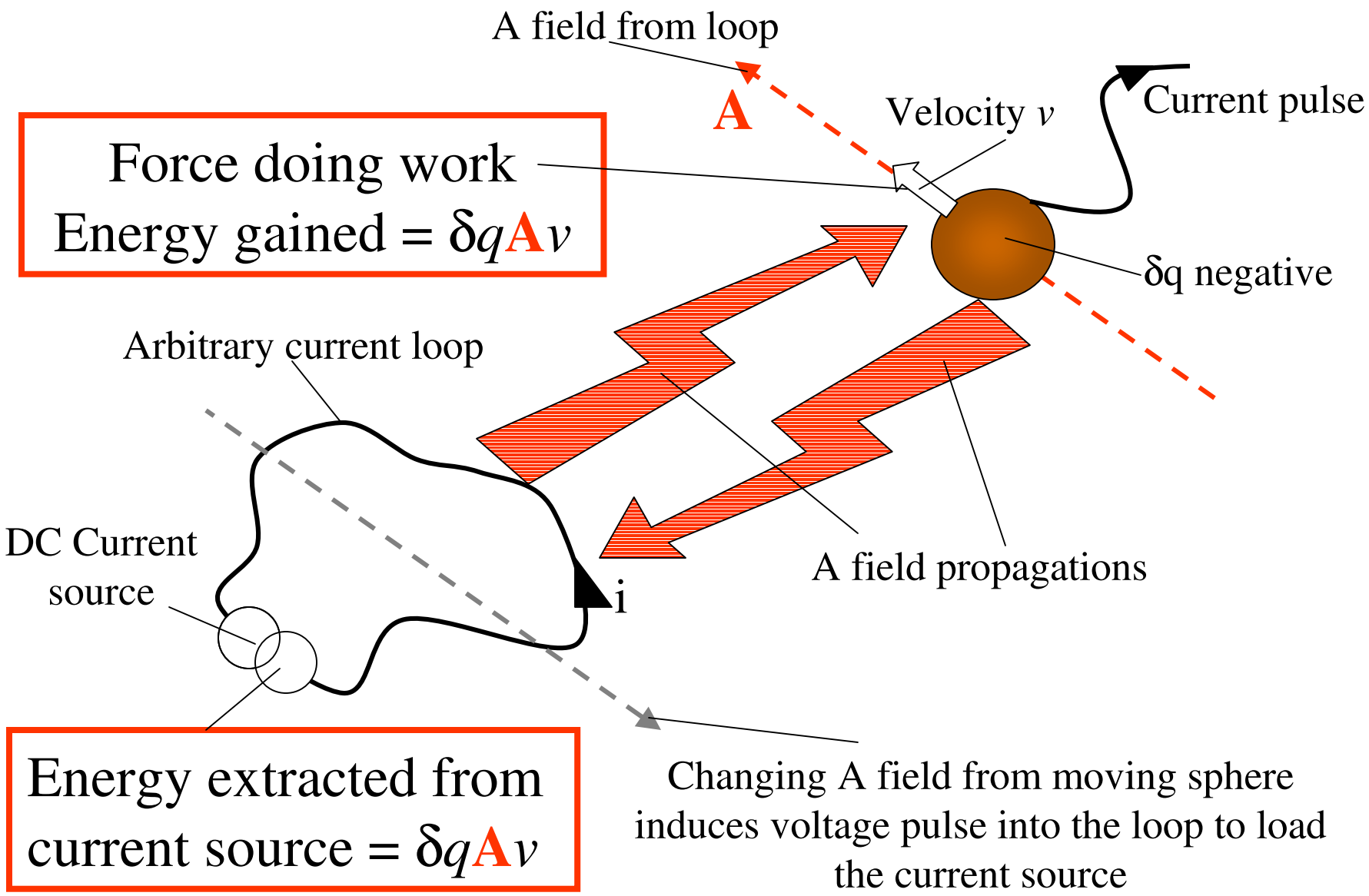
Here is a motor shown on YouTube free running while creating significant amounts of power



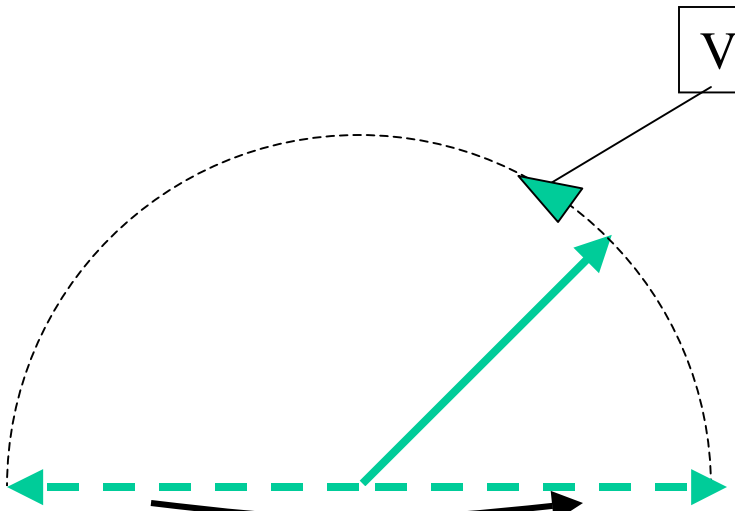
Here is another motor also shown generating significant power

Where does the excess energy come from?

Analysis shows conservation of energy



Magnetic vector potential A at the coil



Vector rotates 180°

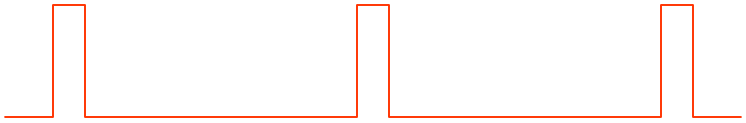
This constant amplitude A vector does not produce an E field

A vector reduces to zero then increases in reverse polarity

This changing amplitude A vector does produce an E field

E

The net result is a series of unidirectional E pulses



Energy is conserved only when the source of the **A** field is taken into account.

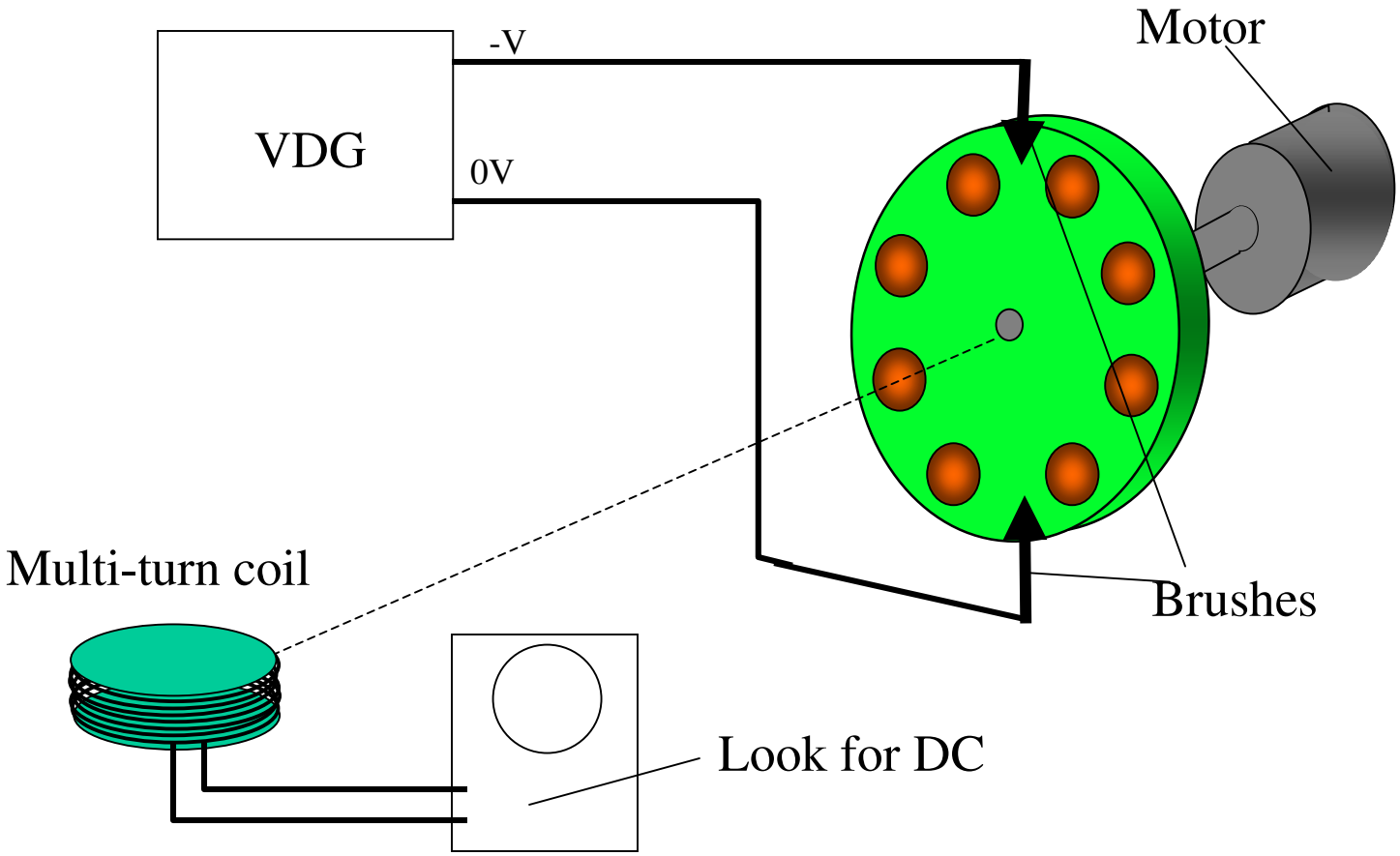
The propagating field from the moving *and changing charge* has the unusual property of applying a DC load to the DC current source of the **A** field.

If the source of the **A** field is a permanent magnet then the atomic current loops get loaded.

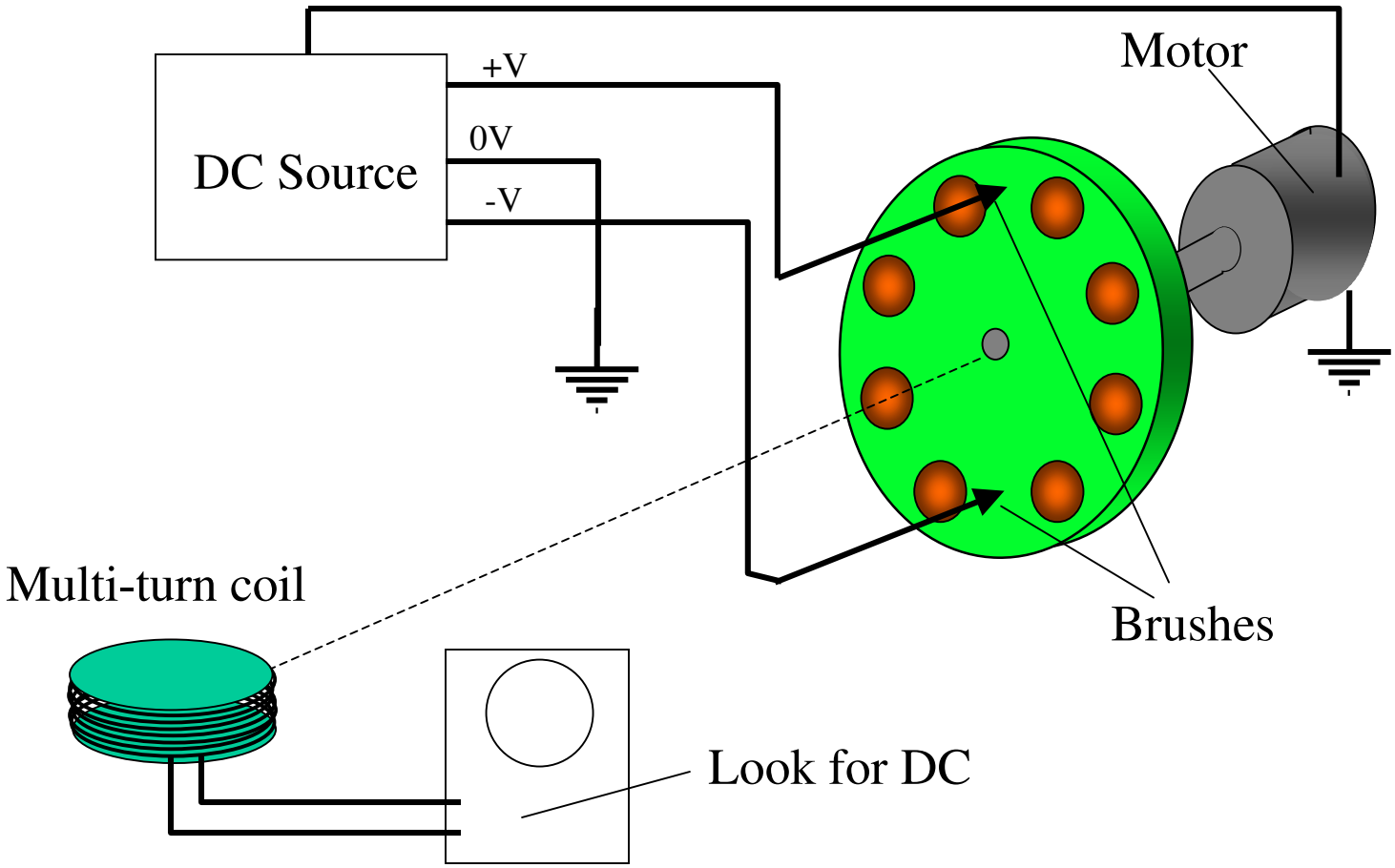
If the source of the **A** field is the Earth's magnetic core then that core gets loaded.

The Earth's **A** field is much greater than that produced from small magnets.

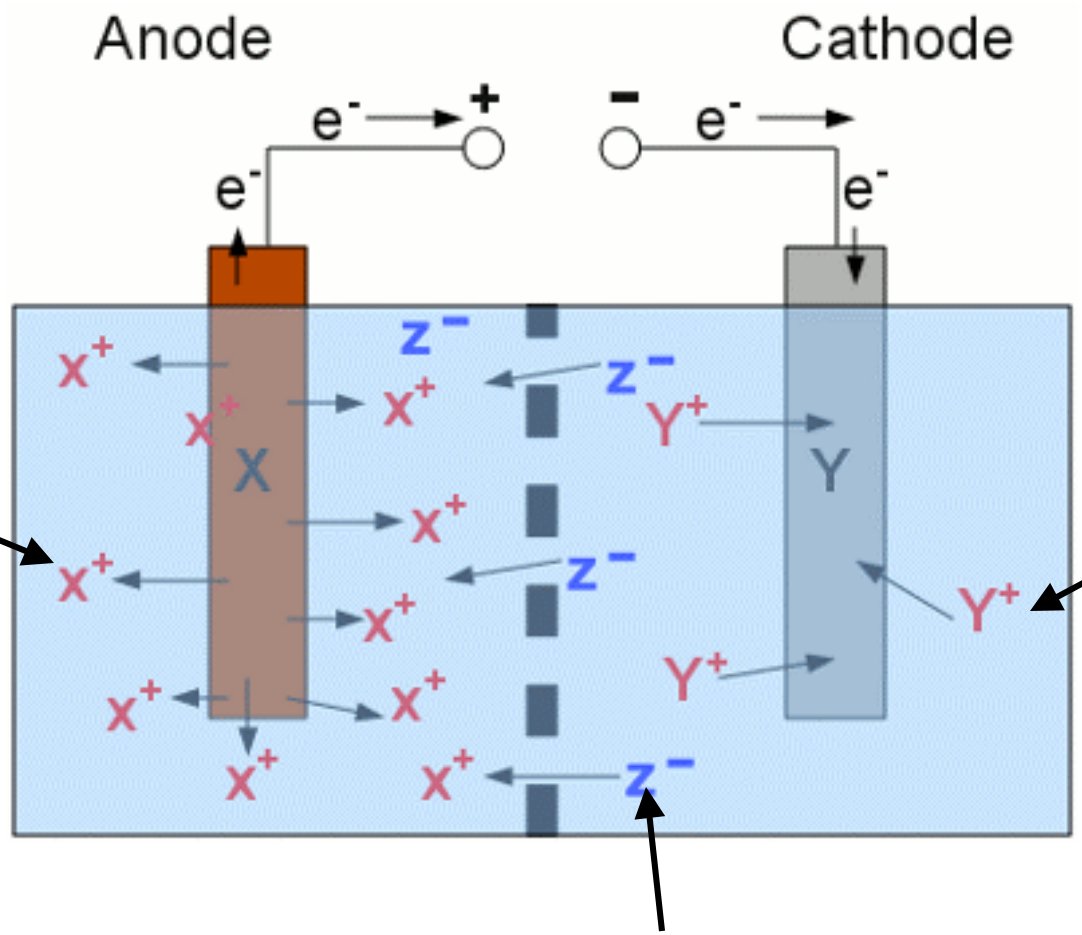
Suggested experiment using spheres charged from a Van de Graaff Generator



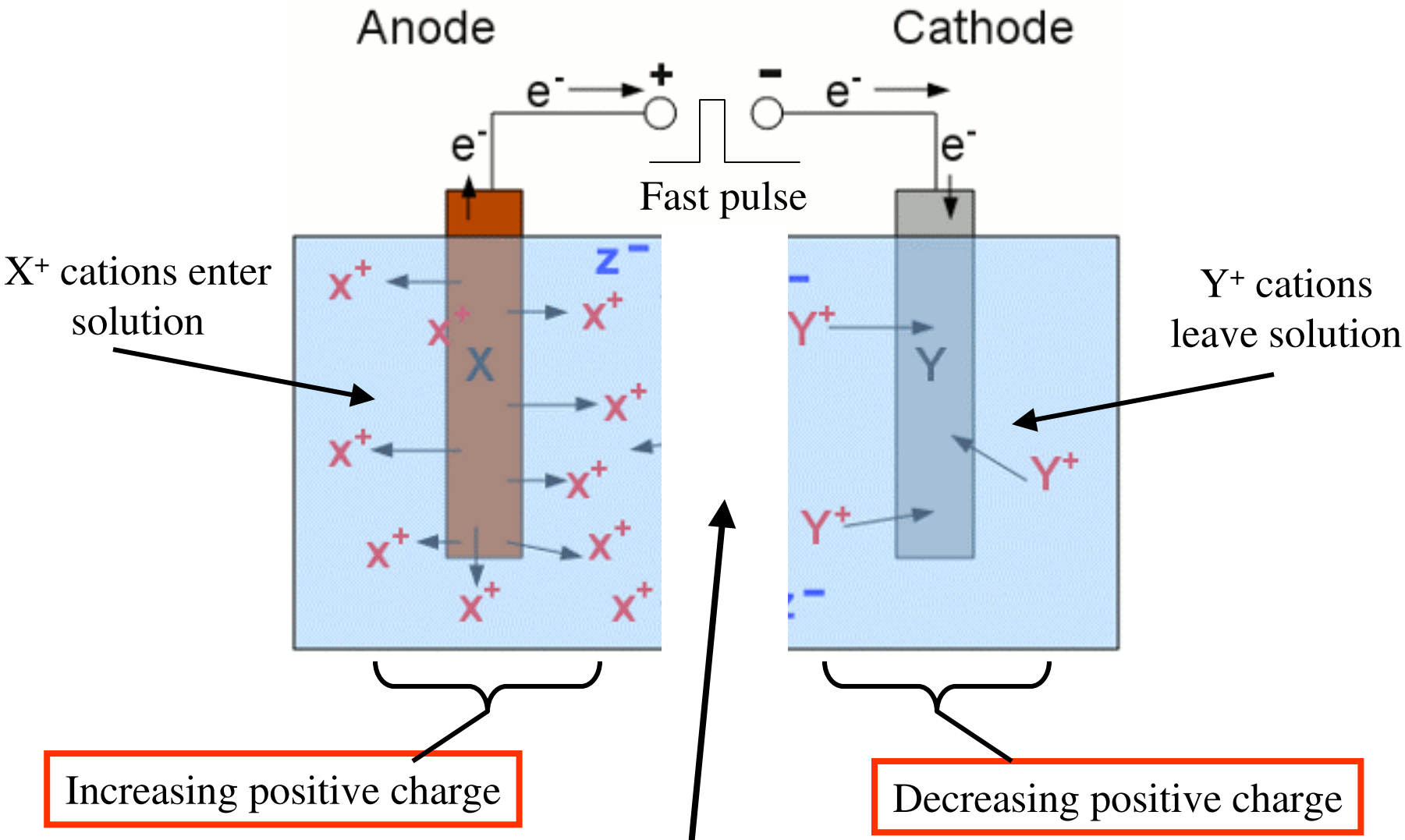
Suggested experiment using half cells charged from a lower voltage generator



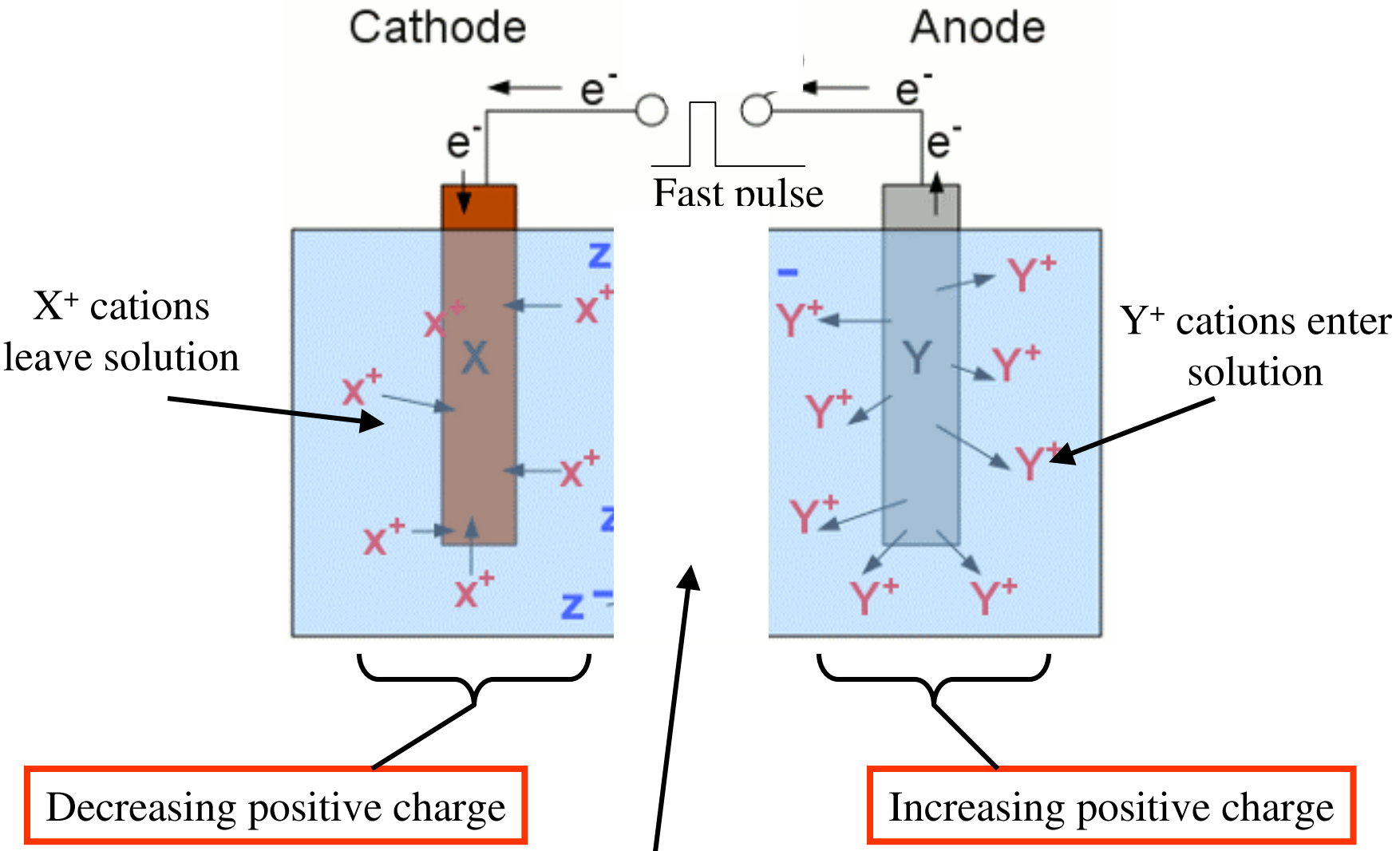
Secondary Cell Charging



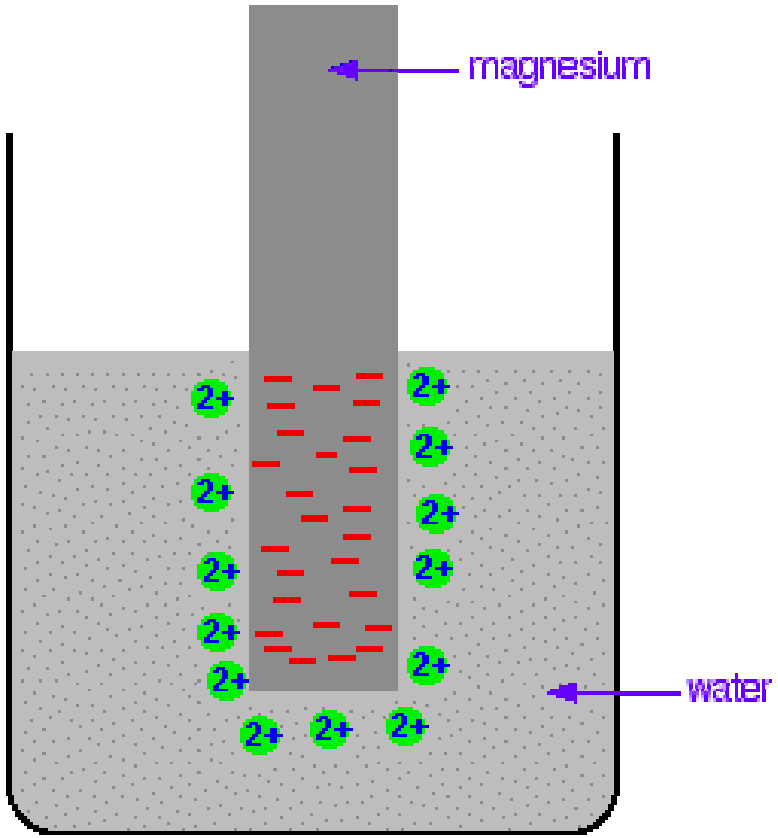
Impulse charge of separated half cells



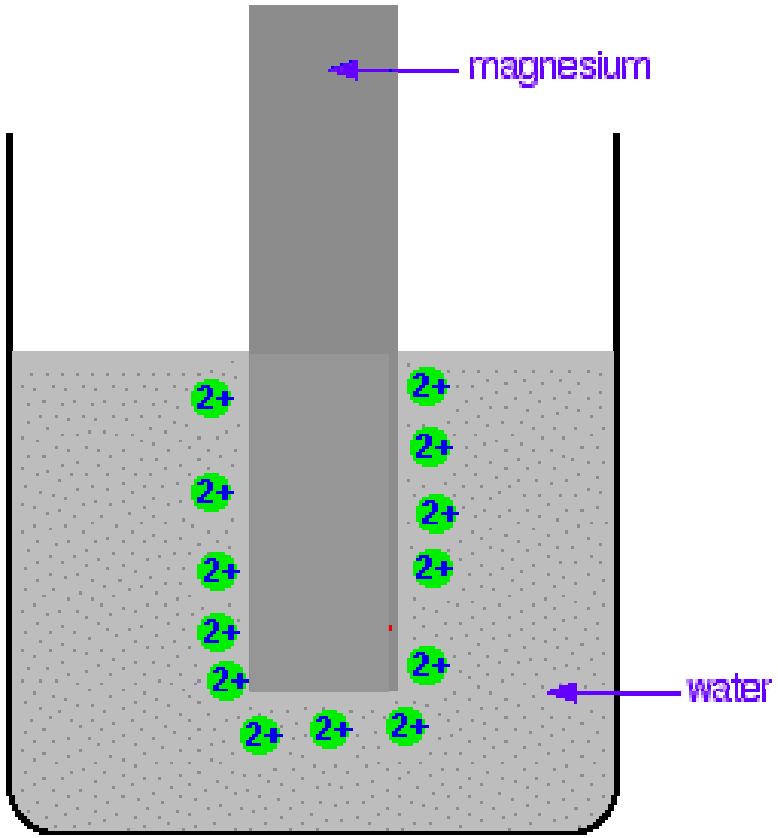
Impulse discharge of separated half cells



Equilibium postion for half cell



After rapid removal of electrons



Ions too slow to respond immediately, positive charge left behind will diffuse away relatively slowly