Generating Electro-Gravitic (EG) Forces

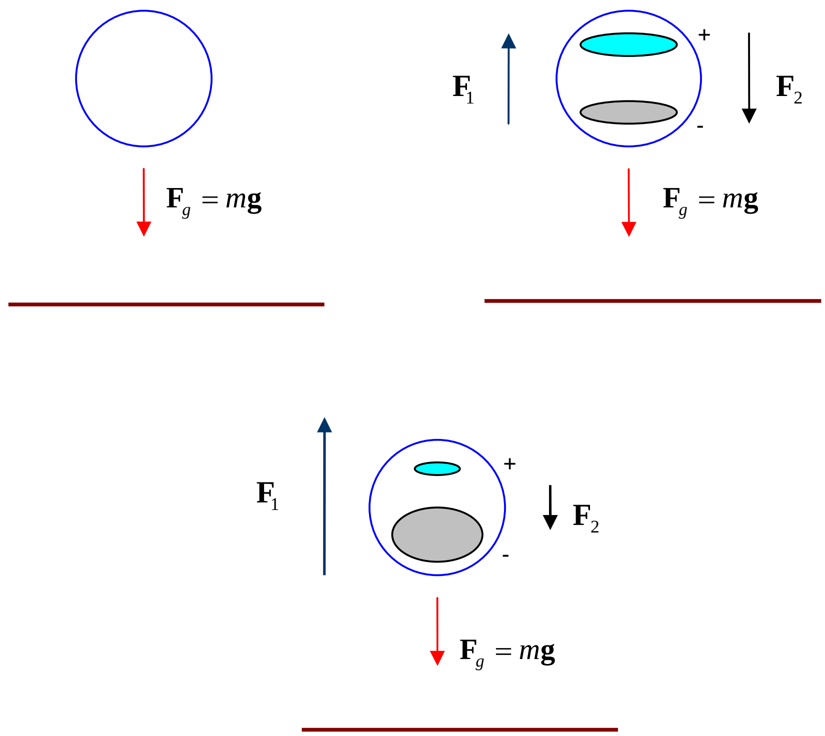

Fig. 1. Producing EG force using an asymmetrical capacitor structure.

In the absence of any other force, a mass m experiences a force mg due to Earth's gravitational field. Since matter is composed of atoms or molecules, it is possible to generate a polarizing electrostatic force between + and - matter. Let's refer to these forces as F1 and F2, as shown in Fig. 1. Since Biefeld and Brown observed a weight reduction of about 1-2%, it can be said that F1 is slightly greater than F2. Then net forces on an electrified mass are

$$\mathbf{F}_{net} = \mathbf{F}_g - \mathbf{F}_1 + \mathbf{F}_2$$

So the goal here is to generate an asymmetrical force pair by changing the shape of the capacitor. The + electrode can be made a small sphere and the -

one can be a large plate. This way, the negatively charged mass is distributed to a larger area.

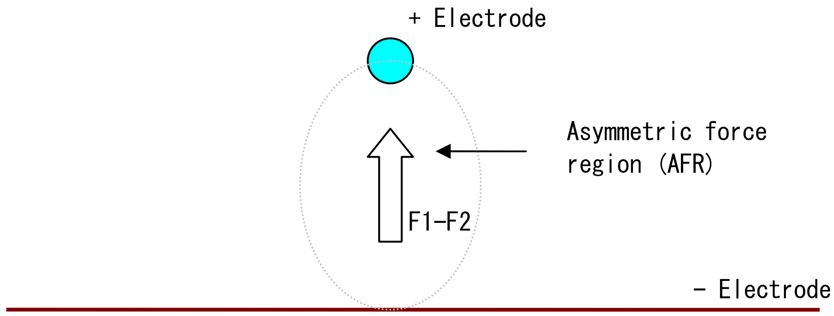

Fig. 2. Asymmetric forces are due to asymmetrical electrodes.

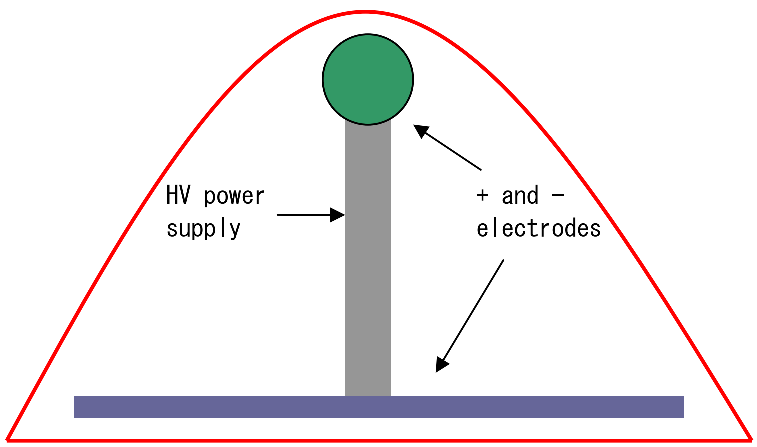

Fig. 3.

For the structure in Fig. 3, the question is what should be the required high-voltage to lift it up? Let's assume that the total mass is m_{tot}.

Gravitational force on m_{tot} is

$$F_G = m_{tot} g$$

Gauss law in differential and integral forms are

$$\nabla \cdot \mathbf{D} = \rho$$

$$\oint\!\!\!\oint_S \mathbf{D} \cdot d\mathbf{S} = \iiint_V \rho \; dV$$

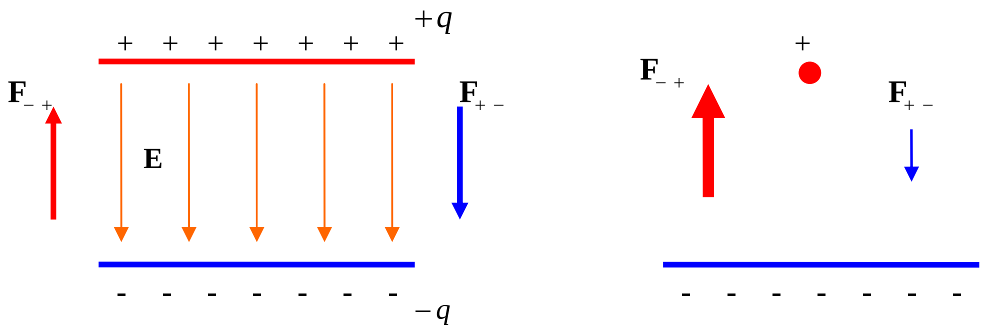

Fig. 4. Forces on symmetric and asymmetric plate capacitors.

Let's make the following definitions:

$\mathbf{F}_{-+}$ = Force on the - plate due to charges on the + plate

$\mathbf{F}_{+-}$ = Force on the + plate due to charges on the - plate

For a symmetrical parallel-plate capacitor these forces are equal. For the asymmetrical case, let's multiply both sides of

$$\varepsilon_0 \oint\!\!\!\oint_S \mathbf{E} \cdot d\mathbf{S} = q$$

with **E**. I assume that **E** field strength is constant. Then

$$\varepsilon_0 \oint\!\!\!\oint_S \mathbf{E} \cdot \mathbf{E} \; d\mathbf{S} = q\mathbf{E}$$

Since $\mathbf{F} = q\mathbf{E}$

$$\varepsilon_0 \oint\!\!\!\oint_S |E|^2 \mathbf{n} \; dS = \mathbf{F}$$

Surface areas are different for an asymmetrical capacitor. In this case

$$\mathbf{F}_{-\,+} = \varepsilon_0 \oiint_{S_-} |E|^2 \mathbf{n}\, dS = \varepsilon_0 |E|^2 S_-$$

$$\mathbf{F}_{+\,-} = \varepsilon_0 \oiint_{S_+} |E|^2 \mathbf{n}\, dS = \varepsilon_0 |E|^2 S_+$$

Now let's take the case of small spherical + electrode (with a radius of 5cm) and a - electrode having a large circular surface (with a radius of 2m). Then

$S_- = \pi b^2$ =12.5664 m²

$S_+ = 4\pi a^2$ =3.1416E-4 m²

Total force on the structure is

$$F_{net} = mg + F_{+\,-} - F_{-\,+}$$

Due to difference in surface areas $F_{-\,+} >> F_{+\,-}$ and

$$F_{net} \cong mg - F_{-\,+}$$

The minimum force to lift the entire structure is

$$F_{-\,+} = mg$$

Then

$$\varepsilon_0 |E|^2 S_- = mg$$

E field strength required for lift

$$|E| = \sqrt{\frac{mg}{\varepsilon_0 S_-}}$$

Example

If the structure weighs 10 Kg, required E is 948KV/m. To reduce E, b has to be increased. For b=10m radius circle, $S_{-} = \pi b^2$=314.16 m² and E=189KV/m.

If the structure is 3m in height, the potential difference between + and - electrodes must be 189KV/m * 3 = 567 KV.

4beowulf7@gmail.com