Why electrons and protons have the same charge

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1. Summary

The reason why electrons and protons have the same electric charge is unknown. Here, I explain it using a particle model of Energy Body Theory. When the foot of the counterclockwise rotating wave of an electron and the foot of the clockwise rotating wave of a proton come into contact, the energy decreases there and the foots of two become distorted. As a result, an attractive force occurs and the two are joined together.
The restoring force of this distortion is the cause of the electric charge. Because the restoring force of an electron and a proton is the same, their electric charges are also the same.

2. Explanation

Although the mass of an electron is 1,800 times lighter than that of a proton, its electric charge is the same as that of a proton.

Mass of a proton; $1.67262192 \times 10^{-27} kg$
Mass of an electron; $9.1093837 \times 10^{-3}\ kg$
Electric charge of a proton; $1.602176634 \times 10^{-19} C$
Electric charge of an electron; $1.602176634 \times 10^{-19} C$

This is a property that is one of the most basic principles of physics, but it remains a mystery to this day. The reason for this is explained by using a model of electrons and protons in Energy Body Theory.
The foot of the electron's left-rotating wave and the foot of the proton's right-rotating wave move in the same direction at the point of bonding. This causes the rotational speed of the waves to increase and their energy to decrease, resulting in the bond. At this point, both feet are distorted. This restoring force becomes the Coulomb force. The bonding position of the two is a short distance for the electron and a long distance for the proton. This causes the distortion angle of the electron to increase and the distortion angle of the proton to decrease. However, the restoring energies of both are exactly the same. If they were different, the positions would shift or the distortion angle would change, making them the same.
The diagram also explains why the speed of light C is included in the Coulomb constant.

Relationship between electric charge and Coulomb's law

1 Electrons in the ground state orbit

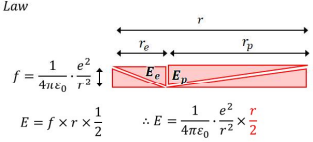
$$f = \frac{1}{4\pi\varepsilon_0}\cdot\frac{e^2}{r^2} \quad Coulomb's\ Law$$

$$\frac{r}{2}\cdot f = \frac{1}{4\pi\varepsilon_0}\cdot\frac{e^2}{r^2}\cdot\frac{r}{2}$$

$$\frac{r}{2}\cdot f = h\nu$$

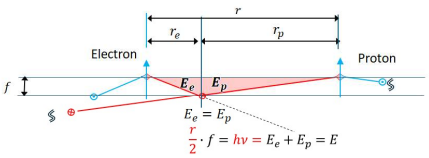
$$\frac{1}{4\pi\varepsilon_0}\cdot\frac{e^2}{r^2}\cdot\frac{r}{2} = h\nu$$

Why multiply by r/2?



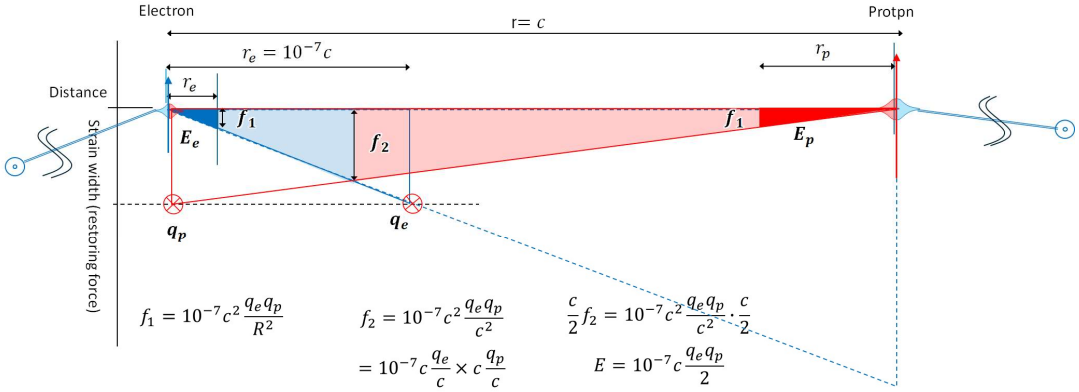
$$f = \frac{1}{4\pi\varepsilon_0}\cdot\frac{e^2}{r^2}$$

$$E = f \times r \times \frac{1}{2} \qquad \therefore E = \frac{1}{4\pi\varepsilon_0}\cdot\frac{e^2}{r^2}\times\frac{r}{2}$$



$$\frac{r}{2}\cdot f = h\nu = E_e + E_p = E$$

2. Relationship between electric charge and Coulomb's law



$$f_1 = 10^{-7}c^2\frac{q_e q_p}{R^2}$$

$$f_2 = 10^{-7}c^2\frac{q_e q_p}{c^2}$$

$$= 10^{-7}c\frac{q_e}{c}\times c\frac{q_p}{c}$$

$$= 10^{-7}q_e q_p$$

$$\frac{c}{2}f_2 = 10^{-7}c^2\frac{q_e q_p}{c^2}\cdot\frac{c}{2}$$

$$E = 10^{-7}c\frac{q_e q_p}{2}$$